



SATURDAY, MARCH 22, 1873.

**Baltimore & Ohio Freight-Car Truck.**

This form of truck has been extensively used on the road referred to, and is said to have given very excellent results. The frame is made chiefly of wood which reduces the cost considerably below that of iron trucks. When made of well-seasoned timber it is said to wear very well.

The engravings will explain its construction better than any written description—one-half of fig. 1 being a side elevation, and the other half a longitudinal section. Fig. 2 is a half plan, and fig. 3 a transverse section through the center. The engravings are made to a scale of a half inch to a foot.

We are indebted to the *Car Builder* for the engravings.

**Railroad Men Before Railroad Committees.**

On the evening of the 11th of March, the Senate and House Railroad Committees of the Illinois Legislature gave a hearing to Mr. John Newell (President of the Illinois Central), Mr. Robert Harris (Superintendent of the Chicago, Burlington & Quincy), Mr. L. Tilton (a director of the Illinois Central), and Mr. T. J. Carter (formerly President of the Great Western of Illinois).

We publish the report of the remarks made by Mr. Harris, as given in the *Chicago Tribune*:

There are two or three simple thoughts that I would like to present to the Committee that may, perhaps, throw light upon this very much vexed and confused question. Twenty-five years ago I was connected with railroads, and twenty years ago I was connected with the Galena road. I have always said that I was willing to listen to any one who would devise a regular tariff; that there were many doubts about it, and perhaps many things that I did not understand, and many difficulties in the way. I said I would submit to a committee of one from each station on the line a blank piece of paper, and accept any tariff they would agree upon and present for adoption, provided that the net result of the tariff should be that the property of the company should have a reasonable return. I suppose I have made that proposition a thousand times since I was connected with the Chicago, Burlington & Quincy Railroad, now some ten years. No one has ever taken it up. Now, the first idea that strikes me is this: something must be agreed upon. The papers of this State, more particularly our Chicago papers, for the last three months have devoted themselves to nothing else than Credit Mobilier and the railroads of the State of Illinois, and I have read with great care every article that has appeared, trying to see if I could not find something new in them, and learn something from them, but I have not been able to learn anything yet. Now the Commissioners have reported in their annual report that the average cash cost of the railroads in this State ought to be only about \$25,000 per mile. The *Times*, in an article commenting on that, very justly said that the simple statement of fact would mislead the public, inasmuch as no railroad could be constructed at an actual cash cost. In the first place, there is a shave that is almost obliged to be made in order to get money at all. No eight per cent. bonds can be sold at par. I do not know of any bonds being sold at more than 80 or 85 cents. In the next place, the rapid prosecution of the road to build it in a year causes a year's interest to be added to that. Coming down from Chicago to-day, I came on the railroad from Gilman, which perhaps could be built for \$25,000 a mile; but a railroad like the Chicago & Alton, the Northwestern, and the Chicago, Burlington & Quincy I am bold to say could not be built for anything like that amount. Nobody could build a road like the Chicago, Burlington & Quincy road for less than \$45,000, and if any one wants to do so he need not spend his profits until he gets them. We have depots in Chicago costing \$1,000,000, side tracks at every five miles. In Aurora and Galesburg we have extensive works. We have a double track for a great number of miles, 5,000 freight cars and 216 engines. It cannot be created to-day at less than \$45,000 a mile. That is shown by the condition of its bonds and stock. That is the fundamental question, because the question of a reasonable return depends upon the amount of capital invested. Starting with that, we have sixty-five cents, or two-thirds, on every dollar on the trunklines—the lines that are identifying with the greatness and magnificence that we have seen growing up in twenty years, surpassing anything that we had read as children in the "Arabian Nights." Sixty-five cents of every dollar is expended in getting the dollar. Now there remains one-third that is applicable, first to the payment of interest on the bonds, and secondly to dividends on the stock. It would follow, therefore, that after paying sixty-five cents to get the dollar, and one-third to pay the interest on the bonds, their stockholders would not have one penny left. Now, suppose it did not pay them. It would eat up every particle of the commercial value of the road. That brings us straight to the question, whether or not this burden is spread as evenly as circumstances will admit? I think the proposition that there should be a reduction of one-sixth from the average tariff of the road would wipe out all the dividends on the stock, and render the stock worth nothing. The fact is there is no extortion, when we look at it in a broad view. The next question, therefore, would be upon the question of discrimination—is it just or unjust? The fact of discrimination, we grant, is by reason of the complicated system that prevails in this State, and is in some respects peculiar to this State. In the first place, it has the Mississippi to contend with seven months in the year. When you consider the network of railroads and the fact that we have the Mississippi on the west and Indiana on the east, you will readily see why nobody has taken up my offer, viz., to give me a tariff that I could adopt.

The question is whether discrimination can possibly be avoided. Whether it is not forced upon us by the laws of commerce. Now, before the east and west roads were finished, we heard no complaints as to this matter of discrimination. Perhaps I might be answered, it is because prices were high, margins large, and the discriminations were not noticed. But the fact is they did not exist. When the northerly and southerly roads were alone these discriminations did not exist. I feel sure that if the matter was discussed candidly and fairly before the people of the State, the whole of the excite-

ment with reference to the question would subside. On the question of discrimination between individuals, the Supreme Court has given their judgment that one person is not entitled to any privileges over another as to localities. Discrimination is forced upon roads oftentimes under such circumstances as to make it better for the other customers of the road that such discrimination should be made. The enforcement of the legislation that has been on the statute books the past year would bankrupt any road in the State in a few months. It was an *ex post facto* law. It said that the lowest tariff in force on any day of the preceding year should be the measure of all the tariffs for that year. Now, the Toledo & Wabash road, in competition with the Burlington & Quincy upon a certain day, could have sent any business over their line at less than cost price. That law forces them to carry all business from all points for the subsequent year at rates that would be less than cost price.

We have been charged with disobeying the laws of the State. We claim that there is nobody in the State that would be more careful to obey the law than the railroad officers of the State. It is partly owing to their care to enforce order and decorum that ladies or children can travel alone from Bangor to San Francisco without fear of molestation. The law as it now stands on the statute books contravenes our very existence. Its observance would be the same as the surrender of the property. We are asked, Why don't you reduce the fare from three and a half to three cents? There goes your sixth, and with it all the profit applicable to dividends. The Chicago, Danville & Vincennes, the Illinois Central, the Chicago & Alton, and the Chicago, Burlington & Quincy railroads are the four roads most affected, and some of them will be most disastrously affected if this legislation should be enforced. The Chicago & Rock

done at the low figure mentioned, and it had better be done at that low figure, commercially speaking, because if we do not do it at that, we cannot do it at all. Toledo seeks to draw off the business to the East. Chicago has the advantage of the lake, and the more business that can be brought into Chicago from the junction points, the cheaper we can do the business from the points that are not junction points. At Bloomington there is a road running directly to Toledo. The legislation of this State should be framed so that the Chicago & Alton and Illinois Central could be forced out of Bloomington. I fancy no one thinks that rates of the Wabash road would be kept as they are. I am inclined to think that they would go up. I cannot conceive of any way in which we could avoid recognizing the fact that Indiana is on our eastern border, and the State of Illinois must bear that in mind in undertaking to establish a uniform tariff. If it can be done, for one, I should be very glad to have the way pointed out to me. If the Railroad Commissioners would show some way in which we can avoid these discriminations they would relieve my labors nine-tenths.

**Mr. Joy on the Detroit Tunnel.**

In a speech on railroad matters made before the Michigan Legislature recently, Mr. James F. Joy, President of the Michigan Central Company, gave his conclusion concerning the practicability of the tunnel under the Detroit River. His remarks are reported as follows in the *Detroit Tribune*:

"Mr. Joy said that the tunnel had always been a favorite project of his. He recited how he had employed Engineer Chesborough a year in making examinations, who then recommended that a sub or drainage tunnel be built as a means of testing the ground. It was estimated to cost \$80,000, and to require six months' time. The work was begun about a year and a half ago, and had continued until a day or two since.

"Upon this side no particular obstacle was met with. The shaft was completed half way across. From the Canada side great advance was made until quicksands were reached, and soft clays that filled the tunnel and made work difficult and dangerous. Another start was made fifteen feet above, but the same quicksands interfered. After eight months' work and an advance of two hundred feet—a foot a day—a report was asked from the engineer. He answered that the work would cost \$200,000 to complete, and they might get it through in a year or not, as it happened. The work within the last few days had been found extremely hazardous, so the workmen were paid off and the work abandoned.

"There is no way to get across the river but a bridge or a ferry. The ferry was expensive and at times inadequate. There never was a bridge put across a large river without a fight. It had endured for fifteen years on the Mississippi before the Rock Island bridge was put across and the road maintained itself. Now by act of Congress bridges could be constructed over navigable rivers of the United States. There were now four roads across the Mississippi and two across the Missouri, a far worse stream, with a current at Kansas City of eight miles an hour. It had taken two years to build a bridge at the latter place, and it was four years since it was completed, and in all that time not the slightest damage had been done to the shipping interests, and they had acknowledged that they had inaugurated a foolish fight.

"It was to be expected that the vessel interests would oppose a bridge across the Detroit. They want no interference. They can carry corn from Chicago to Buffalo for five cents a bushel and make money. The crop last year was large—greater than the vessels and railroads together could move in the season, and so they charged eighteen cents. If you can regulate freights it would be well to regulate the vessels.

"Now the time of vessels had become very valuable, and so they quite universally employed tugs to hasten them from Lake Huron to Lake Erie. Some of these tows were half a mile long. There would be no trouble in going up stream, as the current would regulate obviously enough the steamer way. Coming down it might be necessary to change the system and take the tows more in control, perhaps side by side. The fight for a bridge might be a long one, but you could not stop this world when it gets to the Detroit River."

**Sny Island Levee.**

Levees are common enough on the lower Mississippi, where indeed they are indispensable to the existence of a great many profitable plantations; but the above is one of the first, so far as we know, undertaken for the protection of farming land in the State of Illinois. The tract to be reclaimed is one lying along the east bank of the Mississippi from a point a few miles below Quincy where the bluffs begin to recede from the river, down a distance of nearly forty miles to a point near the mouth of the bayou known as "Sny Cartee," about eight miles below Clarksville, and extend back to the bluffs, which for the most part are six or eight miles from the river. Sny Cartee is a bayou, extending this entire distance by a very sinuous course, and cutting off the district known as Sny Island. The Quincy, Alton & St. Louis Railroad extends along the eastern border of the lowlands, near the bluffs, as far down as Louisiana, and the Rockhouse & Louisiana Branch of the Chicago & Alton cuts diagonally across the lower end of it for about 12 miles. The levee is to be 51 miles long, following pretty closely the river bank, and Levee Commissioners appointed to oversee the improvement certify that the land which it will reclaim amounts to a little more than 100,000 acres. The cost of the work is assessed upon the land to be improved, and the assessments will be collected with the State taxes, according to a law of the State. Mr. E. L. Cortrell, of Hannibal, Mo., is Chief Engineer of the work, and has designed and prosecuted it. His report, dated January 11, says that the total work will be, approximately, 1,920,000 cubic yards of earthwork and 600 yards of clearing and grubbing. The work has been let to Skelsey, Fuller & Pierce, who had prosecuted it with energy for about three working months, and up to that date had completed 511,448 cubic feet of earthwork and 271 acres of clearing and grubbing, and opened up 24 miles of the work, which they were to have completed by the 1st of March. The whole is to be done by March, 1874.

The bonds issued to pay the cost of this improvement (\$500,000, paying 10 per cent. interest) are registered with the Auditor of the State of Illinois, and are a lien upon 101,245 acres of land in Adams, Pike and Calhoun counties. The interest is payable annually in Springfield or New York, and the principal at the rate of \$50,000 a year in from 10 to 20 years.

The Baltimore & Ohio Railroad Co. is about to establish a general ticket office in Philadelphia, under the Press building, in charge of Mr. J. B. Carpenter, late of the Union Transfer Co.

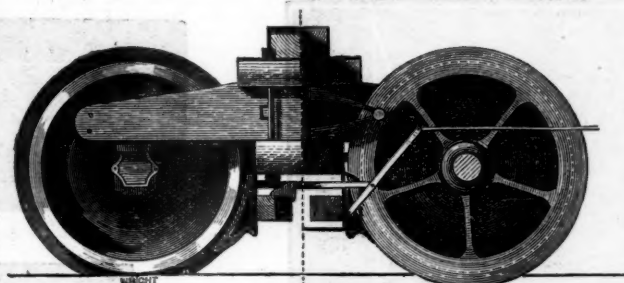


Fig. 1.

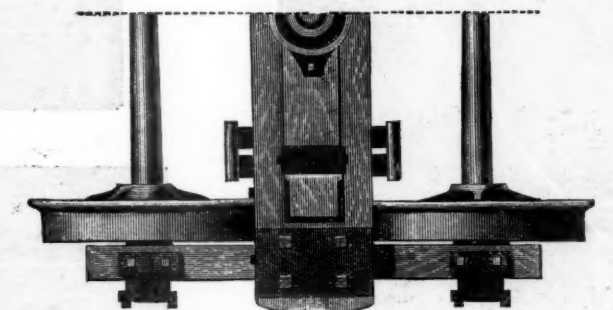


Fig. 2.

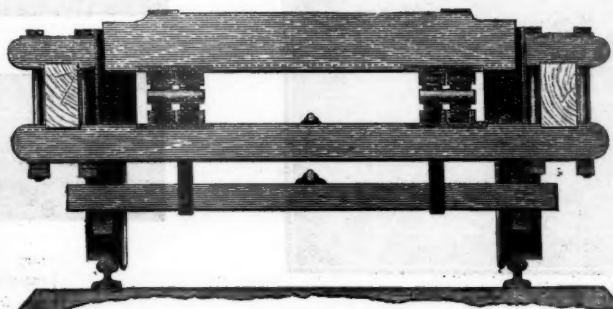


Fig. 3.

**BALTIMORE & OHIO FREIGHT-CAR TRUCK.**

Island and the Northwestern, as far as they go directly west from Chicago, are not influenced by the policy so much as the four roads I have named. On the Burlington, we have the Peoria & Rock Island crossing us at Galva; Toledo, Peoria & Warsaw at Bushnell. At Quincy we come in competition with the Toledo, Wabash & Western road. Now, either one of the three roads can force us to either surrender our business at the junction points, or put our rates so low that, if we do all the other business equally low, we would make no profit at all. These roads can so arrange their rates that in conjunction with the Indiana roads they would accomplish this result. What would be the consequence of that? Why, the business that we would otherwise do at some profit would be taken away, as it is clear that we would have to charge business that remained to us something more than we otherwise could do it at. To further illustrate this point, I will mention that the Chicago, Burlington & Quincy road has leased the Burlington & Missouri, and thereby seeks to divert the business gathering on 400 miles of Iowa roads through this State to Chicago. Is it not clear that, St. Louis and New Orleans being ready to do their utmost to draw off all the business down the river, if we are obliged to do all local Illinois business at the same low rates, we had better let the Iowa business go to St. Louis? Whereas, if we can bring it over the Chicago, Burlington & Quincy at the same profit (and I would mention that that business is one-third of all our business) it is very clear we can do the business of Illinois cheaper than if the whole of the Iowa business was taken from us at the Mississippi River. This is one grand reason for the practical necessity of discrimination. So with Galva. The Peoria & Rock Island road may, in combination with the Indianapolis, Bloomington & Western, set its rate at Galva at the lowest practical compensation prices. If we are compelled to do all business at an equally low rate, we had better surrender the Galva business. We never undertake to do business without some profit. Whatever profit we make goes to reduce the profit that we get out of the business that must be contributed to the road.

Now, these are the reasons why the tariffs at junction points with railroads that are not wholly within the State of Illinois, and under its control, absolutely force the business to be



## Contributions.

## Pivot Bridges.

While numberless volumes and essays have been written upon the general subject of trussed beams and girders, it is rather remarkable that the consideration of a beam when circumstanced as a pivot bridge has been almost entirely overlooked. Even the standard foreign works, the mine as it were from which most of our theoretical ideas come, have, so far as the writer is acquainted, passed over the subject entirely. It is true that continuous beams over one or more supports have been discussed with great elaboration, but they are only partially applicable to the peculiar conditions of the swing bridge. It is probable that the first clear appreciation of the subject was published by Mr. Morison, in Mr. Chanute's monograph on the Kansas City Bridge, and the following presentation of the subject is based upon the method therein suggested. The nearest approach to harmony between theory and practice, in this country at least, Mr. Macdonald has attained in his drawbridge at Providence, R. I., and it is a wide departure from ordinary practice. There is no doubt that very many of the great draw-bridges built during the last ten years are in parts

continuity over pivot piers and more nearly establish the condition of two separate girders. How far this is attained is very doubtful, particularly in view of the elasticity of the material of the trusses.

The following case will illustrate what is here meant: In the experience of the writer, it became necessary to adjust the



Fig. 2.

ends of a certain wrought-iron railroad drawbridge some 150 feet long, by means of lengthening the bottom chord, for which method of adjustment provision had been made in the framing. It consisted in blocking up the free ends until a joint opened close to the center of the bridge, when a shim of the proper thickness was dropped in and the ends let down. The distance from said joint to the end operated upon was about 70 feet, and yet before the joint parted sufficiently to get a shim of an eighth

regard the ends supported, in which case the strains in the draw when closed from fixed load alone are precisely the same as when swung. When a moving load comes upon the span, the supported end bears upon the points of support, developing a reaction of the abutment, as in an ordinary bridge, which reaction, however, never will approach in extent that due to a span the half length of draw. In other words, a portion of the draw at each end acts as an ordinary fixed span, while for a certain distance on either side of the pivot, in addition to the strains already existing and due to the fixed load alone, must be added additional strains of the same sign due to the moving load on half of the fixed portion. To represent this graphically—a mode which conveys the whole demonstration at a glance—reference is made to fig. 1, in which the line *AB* represents half length of draw = *l*; call fixed load *w*, and moving load *w'*.

When the draw is open and swinging, the condition of either arm is that of a beam loaded uniformly and fastened at one end. The curve of moments will therefore be a parabola, the vertex of which is at the free end, and the ordinate at center equal to the well-known formula of  $\frac{wl^2}{2}$ .

When closed and one arm loaded with *w'*, the moments are

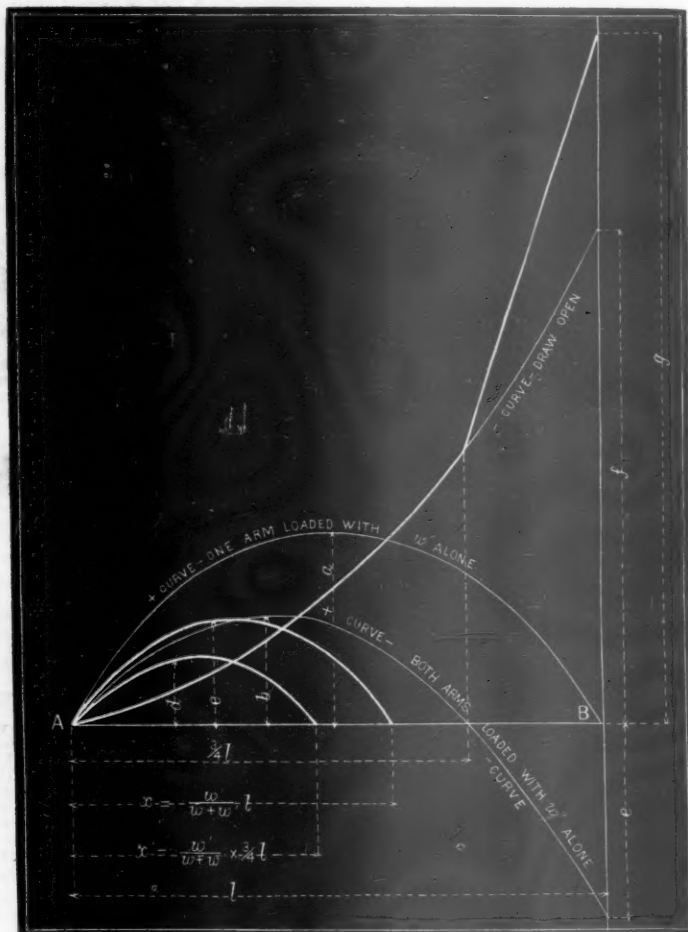


Fig. 1.

- a* = middle ordinate of parabola, one arm loaded; from  $w'$  alone =  $\frac{w'^2 l^2}{8}$   
*b* = middle ordinate of parabola, both arms loaded; from  $w'$  alone =  $\frac{9}{128} w'^2 l^2$   
*c* = middle ordinate of parabola, resultant one arm loaded, combined with open draw =  $\frac{30 + 10'}{8} w'^2$   
*d* = middle ordinate of parabola, resultant both arms loaded, combined with open draw =  $\frac{30 + 10'}{8} w'^2$   
*e* = maximum ordinate for negative moments over center pier from  $w'$  on both arms alone =  $-\frac{10'}{8}$   
*f* = maximum ordinate for negative moments over center pier from  $w$  alone (draw open) =  $-\frac{10'}{8}$   
*g* = resultant of *e* and *f* =  $-\frac{10'}{8}$

The ordinates between *AB* and the curves in heavy lines measure the extreme moments under a given loading to which a swing bridge can be subjected.

overstrained, when loaded with extreme loads, but the high factor of safety usually adopted keeps that overstraining within elastic limits, so that actual failure will hardly occur. The exact solution of the problem is one of extreme difficulty, and possibly beyond the pale of the most refined analysis; but, nevertheless, an approximation can readily be made under extreme loading that will be unquestionably safe.

It is customary to proportion a swing bridge under two circumstances: the one when the bridge is open, from the fixed load alone; and the other as two separate and distinct spans, when closed and loaded with both fixed and movable loads, no account being taken of continuity over pivot pier. That this is an erroneous assumption of the condition of affairs is evident, when we consider the customary manner of supporting the ends when closed. Now there are three methods of doing this. First, by means of cams; second, by means of folding wedges; and thirdly, the ordinary appliances of wheels, either attached to the masonry or to the ends of the draw under the end posts. To the first division of supports may be added screws, or hydraulic jacks, since they have the same object in view, viz.: raising the ends of the draw, to neutralize

of an inch introduced, the ends had been blocked up about eighteen inches. It is regretted that no exact measurements were taken, nor a dynamometer applied to the joint, so as to determine the exact relation between elevation of ends and the moment when the joint was relieved of strain due to continuity. In a long drawbridge the ends would have to be raised very much more to counteract this effect of continuity, and in any case to raise the ends sufficiently to make true the consideration of two separate girders would involve an elevation far beyond the limits of practicability. Three inches is probably an extreme convenient limit. Were the material perfectly inelastic, a fractional raising of the ends would at once relieve the centre. As it is, the practical elevation of the ends is such that it is unsafe to consider any relief of centre strains due to continuity. It is doubtful if the practical extreme elevation of the ends, which is assumed to be as above—viz., three inches—will relieve much beyond the end panel, and to do this for a moderate-sized drawbridge requires power other than hand—in most cases an undesirable expense.

It is improper, therefore, to consider any effect of raising the ends of a swing bridge in proportioning its parts, but simply to

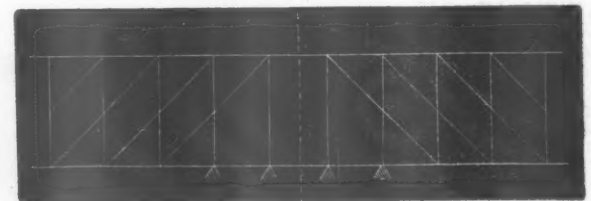


Fig. 3.



Fig. 4.

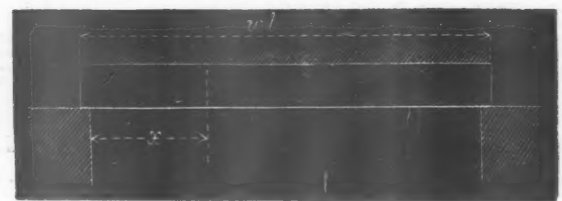


Fig. 5.

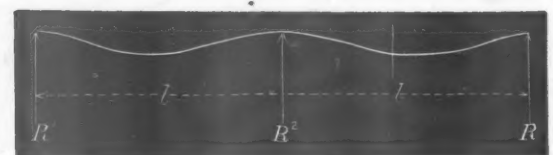


Fig. 6.

expressed by a parabola with the vertex over middle of arm, equal to  $\frac{w'^2 l^2}{8}$ . The loading of both arms with  $w'$  involves the condition of a beam continuous over three points of support, which, for a beam of uniform section, implies a point of contrary flexure, located as near as may be at a distance of  $\frac{1}{2}l$ , measured from free end. This distance is not true for a beam of uniform strength, but the difference is very slight, so that it will be practically sufficient to consider our bridge as a beam of uniform section, and the parabola is so drawn with its middle ordinate equal to  $\frac{1}{2}w' l \times \frac{1}{2}l$ . Beyond  $\frac{1}{2}l$ , the curve passes below the line *AB*, and has the opposite sign, or the same sign as the curve of the open draw. This curve intersects the vertical axis of the bridge, at a distance represented by  $(\frac{1}{2} + \frac{1}{2})w' l \times \frac{1}{2}l$ . We have now represented separately the three con-

NOTE.—The point of contrary flexure due to combining positive and negative effects of  $w$  and  $w'$ , respectively (figs. 4 and 5), must be at that point where their moments are equal, or their sum = 0.

$$M_x = + \frac{w'^2 l^2}{8}$$

$$M_x = \frac{w' l x}{2} - \frac{w' x^2}{2}$$

Placing these equations equal to each other, we at once get:

$$x = \frac{w' l}{w' + w'}$$

Reaction from points of support, as given by Stoney (p. 150) for a continuous beam is as follows (fig. 6):

$$R_1 = \frac{7w - w'}{16} l$$

$$R_2 = \frac{5}{8} (w + w') l$$

$$R_3 = \frac{7w' - w}{16} l$$

In which  $w$  = load per linear unit, left side.

$w'$  = " " " right "

$l$  = length of span.

If  $w = w'$ , or both arms are loaded uniformly, the point of contrary flexure,

$$x = \frac{1}{2} l$$

for a beam of uniform section.



ditions of the fixed and permanent loads necessary to be considered, viz.: The draw open and loaded with  $w$  alone; closed and loaded on one arm with  $w$  alone, and closed and loaded on both arms with  $w$  alone. It remains now to combine these effects algebraically, and obtain the resultant strain, for which the parts are to be proportioned. The strains from  $w$ , when open and swinging, are continually existing, and, being negative, they modify the positive effects of  $w$ , for one arm loaded, so as to bring a point of contrary flexure within a distance of

$\frac{w}{w + w'}$ , measured from free end. (See note.) The positive effect of both arms loaded with  $w$ , combined with the negative effect of  $w$ , results in a point of contrary flexure at a distance of

$\frac{w}{w + w'} \times \frac{l}{2}$  from free ends. The portion of the curve below the line  $AB$  due to  $w$  on both arms being of same sign as the strains from  $w$ , the maximum strain over center pier must be  $-\frac{w}{8} \frac{l^2}{2}$ . The figure shows the resultant curves, the ordinates of which cover the extreme moments that can possibly occur, and need only be divided by depth of beam for maximum strains. Summing up, we have then for

maximum negative moments over pier =  $\left( \frac{\text{tension above}}{\text{compression below}} \right)$  when both arms are loaded.

Maximum negative moments near ends of draw =  $\left( \frac{\text{tension above}}{\text{compression below}} \right)$  when neither arm is loaded.

Maximum positive moments =  $\left( \frac{\text{compression above}}{\text{tension below}} \right)$  when one arm is loaded.

In applying this method to compute strains in a lattice truss, it must be borne in mind that the vertical axis must be placed at the point of support, and not at center of bridge, or results will be excessive in cases where there are four or eight points of support, as in the annexed figures, the first one of which represents a web of one system of triangles, and the second of two systems.

Deduction must also be made for the weight directly supported on turn-table. It is not necessary to construct a set of curves in practice—simply compute the values of  $x$  and  $x'$ . Then treat the portion of the truss represented by  $x$  as an ordinary girder, while the balance of the truss to the center must be treated as a cantilever (in which the open draw strains are ever existing), with the weight due to the half span of  $x$  and  $x'$  hung at the end. It must be borne in mind that the truss is an articulate structure, the horizontal strains being uniform for a panel length, while those of the solid beam on which the curves are drawn vary continuously, so that moments at similar points will never exactly agree. By drawing to the same scale the skeleton diagram below that of the curves, the points and reasons of disagreement will be apparent, due not only to the above cause, but also to the number and position of the points of support.

ALF. P. BOLLER.

New York, February 24, 1873.

## OLD AND NEW ROADS.

### New York & Oswego Midland.

The New York Assembly has passed an act authorizing this company to increase its capital stock by \$5,000,000, "to enable it to complete and equip its railroad from Scipio, in the County of Cayuga, to its authorized terminus on Lake Erie or the Niagara River," and also authorizing it by a vote of a majority of its directors to increase the number of its directors to seventeen. At present towns on the line own \$7,000,000 of the \$10,000,000 stock, and have paid their bonds for it. They object to an increase which will take the control of the property from them, and the act may be defeated in the Senate.

### Municipal Aid in New York.

A bill has passed the Senate of New York, limiting the time within which the written consent of taxpayers may be used for bonding towns in aid of railroads to one year from the date of the signature. The consent of the actual owners of half the property is needed, but heretofore several years could be taken for obtaining these consents, in which time very often the signers might have reason to change their minds.

### Union Pacific.

Among the information recently furnished to Congress by this company is a statement of that part of the floating debt of the company, amounting to \$2,373,891, which is funded into notes, a falling due before August 1, and \$600,000 is a sterling loan. The notes are held by the directors. Some of the largest are as follows: John Duff, \$293,724; Oliver and Oakes Ames, \$437,419; G. M. Pullman, H. F. Clark, Aug. Schell, Sidney Dillon, C. S. Bushnell, L. P. Morton, \$130,000 each.

### Green Bay & Lake Pepin.

The Minnesota Legislature has refused to pass the bill authorizing the transfer to this company of \$100,000 in bonds voted by Winona for the Winona & Southwestern road.

### St. Paul & Pacific.

Previous to its adjournment, Congress passed the bill extending for nine months from March 3 the time allowed the St. Paul & Pacific Company for the completion of its road without forfeiture of the land grant.

### Mississippi Valley & Western.

A meeting of the stockholders of this company was held at Canton, Mo., March 1, to authorize the issue of the bonds of the company, bearing date January 20, 1873, to the amount of \$3,300,000, pursuant to the action of the board of directors.

### Harlem Extension.

It is said that the town of Bennington, Vt., and other towns, will resist the payment of interest on bonds issued to the Lebanon Springs Railroad, afterward merged in the Harlem Extension. It is said that the New York, Boston & Montreal Company, with which the Harlem Extension Company is now consolidated, will offer the towns 50 per cent. of the bonds and a second mortgage on the consolidated line for the balance.

### Western, of North Carolina.

A bill is before the North Carolina Legislature authorizing the transfer of the State's interest in this road to any party who will guarantee the completion of the road from Egypt, its present terminus, to Greensboro, on the North Carolina road, 40 miles, and its extension south to Lumberton, on the Wilmington, Charlotte & Rutherford, about 34 miles. This would give a new line from Wilmington to Greensboro, about as long

as the one now existing by the Wilmington & Weldon and North Carolina roads. The bill is said to be in the interest of the Southern Security Company.

### Lake Erie & St. Louis.

This company has been consolidated with the Lima, Spencer, Celine & State Line Railroad Company of Ohio. The name of the consolidated company will be the Lake Erie & St. Louis, and its capital stock will be \$6,000,000 in shares of \$50. The general offices will be at Kokomo, Ind.

### Elkhart & Massey's.

A call of two dollars per share has been made, to be paid within 30 days. Books are to be opened for subscription to 2,000 additional shares of stock.

### St. Joseph Bridge.

Mr. E. D. Mason, the Engineer, informs us that the last of the six piers of this bridge over the Missouri River reached bed-rock last week, at a depth of 66 feet below high-water mark. Two of the three fixed spans are swung, and the floor and track are laid thereon. The draw-span will be swung within fifty days, and the entire work will be completed early in May.

### Anderson, Lebanon & St. Louis.

A telegram from Indianapolis, dated the 4th, says that at a meeting held that day at Noblesville, Ind., contracts for the grading from Anderson to Waveland, Ind., were let to Black & McCann, of Louisville, Ky., who are to begin work by the 1st of May.

### Indianapolis, Cincinnati & Lafayette.

A telegram from Indianapolis, dated March 4, says that the proceedings in bankruptcy against this company were superseded on that day in the United States Circuit Court, that the company has purchased all the claims against it except one, which is disputed, and has deposited a sum to pay that, if the court shall allow it.

### Keokuk & Northern Packet Company.

A telegram from St. Louis says: "The position of the new Upper Mississippi steamboat line, the Keokuk & Northern Packet Company, is stated as follows: Capt. John S. McCune, Port Captain; W. S. Davidson, General Superintendent; Thos. H. Griffith, Secretary and Treasurer. The Executive Committee, composed of Capts. McCune, Davidson, and Thomas B. Rhodes, will have the management of the business, appointment of officers of steamers, agents, etc. E. W. Gould, John A. Scudder, and P. Conrad will decide the value of property of the three old lines, and determine at what rates the steamers shall turn into the new company. The following steamers will not be comprised in the new valuation, as they will run in other trades: John Kyle, City of Quincy, Tom Jasper, Savanna, Illinois and St. Johns."

### Railroad Investigation in Virginia.

The Railroad Committee of the Virginia Legislature has propounded the following questions to the presidents of all the railroad companies in Virginia:

1. Have you published your rates of charges for freights and tolls, and for the transportation of passengers, and caused the same to be kept conspicuously posted up at each of your several business stations or offices, as required by section 1, chapter 294, Acts of Assembly 1866-67?
2. Have you published your rates of charges for through freights and tolls, and for the transportation of through passengers, and caused the same to be conspicuously posted up at your several business stations or offices?
3. Have your officers or agents transported, or contracted to transport, freight or passengers at a greater or less charge than is fixed in such published tariff, and do all freights and all passengers, of the same class, transported over the length of your road within the State, pay the same rate of charge?
4. Has your company, for transportation over the same distance, and in the same character of trains, charged, taken or received a higher rate for freight consigned to or from any point within this State than is charged, taken or received for like freight consigned to or from any point beyond the limits of the State?
5. Has your company charged a greater sum for the transportation of freight over a part of its line than is charged for the transportation of similar freight over the whole length of its line?
6. Do all freight and all passengers of the same class, transported over the length of your road or canal within the State, pay the same rate of charge?
7. Has your company entered into or formed any schedule from any point beyond the State to any point within the State greater than is charged for like transportation from such point and through the State to any point beyond the same?

### Cincinnati Tunnel.

The firm of G. W. Morton & Co., composed of G. W. Morton and Gen. John C. Fremont, which, in 1870, took the contract to construct the tunnel under the Walnut Hills, in Cincinnati, was declared bankrupt March 12, by the United States District Court. A motion has been filed for a new trial.

### Toledo, Wabash & Western.

Counterfeit certificates for 500 shares of the stock of this company were discovered in New York, March 15, the certificates having been placed with one of the city banks as collateral. It is believed that more are in existence.

### New York & Oswego Midland—New Jersey Division.

Preparations are being made for the construction of the road through Bergen Hill which is to lead to the property purchased by the company at Weehawken, just above Hoboken. It is said that work on the cutting will soon commence, and that it will take not less than two years to complete it. Meantime it is probable that a temporary track will be laid over the hill on which freight will be carried, the passenger trains continuing to run to Jersey City, as at present. The accommodations for the freight traffic of the Midland at Jersey City are necessarily limited, as the yard there is entirely too small for the business of the Pennsylvania road, and but little room can be spared for the Midland.

### Lee & Hudson.

The Housatonic Railroad Company has agreed to allow this road to cross its track at grade near West Stockbridge, Mass.

### Boston & Maine.

Passenger trains commenced running over the extension from Salmon Falls to Portland, March 15. Hereafter, all passenger trains will go over the extension.

### Hooosac Tunnel.

Work on the Hooosac Tunnel progressed 277 feet during the month of February, leaving 2,555 feet remaining to be excavated.

### Central Branch, Union Pacific.

A resolution was lately passed by the United States Senate, requesting the Secretary of the Interior to withhold from this company the bonds and land certificates which it claims, pending an inquiry into the regularity of the construction of the road. The company (originally known as the Atchison & Pike's Peak) was one of those chartered by Congress to build roads connecting with the Union Pacific, and was authorized to build from Atchison, Kan., to a connection with the Union Pacific,

Eastern Division (now Kansas Pacific), or with the main line near Fort Kearney. The road actually built (which has been in operation some years) extends from Atchison to Waterville, 100 miles.

### Portland & Ogdensburg—Vermont Division.

Suit has been commenced against the company by King, Fuller & Co., formerly contractors for the construction of this road, to recover \$30,000 damages for breach of contract in not allowing the plaintiffs to complete their contract. The property of the company has been attached.

### Vermont Central.

Suit was recently brought against the managers of this road in the Supreme Court at Ogdensburg, N. Y., to recover about \$1,400 for supplies furnished the Ogdensburg & Lake Champlain road, leased by the defendants, and property on the road was attached. A motion was made to dissolve the attachment, which motion was granted on the ground that all the property was held under authority of the court of Vermont, in trust, and for the purposes of the trust, and could not be attached on a suit brought against the trustees in their official capacity; but that they were personally liable for all debts and contracts made by them.

### Springfield, Athol & Northeastern.

Work on the extension of this road from its present terminus at Barrett's Station, Mass., southwest to Springfield is now going on. It is proposed to connect the northern end of the road with the Cheshire and the Monadnock railroads at Winchendon by running over the Vermont & Massachusetts from Athol to Royalston, six miles, and building a line about five miles long from Royalston to Winchendon.

### Ware River.

The bondholders of this company have declined the proposition of Mr. Chapin, of the Boston & Albany, to put one-third of their bonds into a construction account in order that the extension from Gilbertville to Winchendon might be completed. Mr. Chapin proposed that these bonds should be put into the "pool" at 65 cents on the dollar, and he agreed to take them at that price, and then to sell them to their original owners at the same rate with the interest added, if they desired, upon the completion of the road. It is said that the company will probably be thrown into bankruptcy.

### New Brunswick & Elizabeth.

The bill chartering this company passed both houses of the New Jersey Legislature last week. The road will be about 16 miles long, from New Brunswick, north to a connection with the New Jersey Central at Elizabeth. The road is to be built at once. It will doubtless have a considerable traffic and will insure correspondingly the traffic of the Pennsylvania road.

### New York & New Jersey.

This is the name of a company formed by the consolidation of the Hackensack & New York and Hackensack Extension Companies. The road owned by these companies extends from a junction with the Erie near Rutherford Park, N. J., north 22 miles to Spring Valley, N. Y., and is leased by the Erie. It has been reported that the road would be bought soon by the New York, West Shore & Chicago Company, and even asserted that such transfer had already taken place. These rumors, however, do not seem to be probable.

### Burlington & Southwestern.

Work on the track of this road will shortly be resumed. The grading is completed to Stanley City, Mo., on the Chillicothe Branch of the St. Louis, Kansas City & Northern, 200 miles from Burlington, and 70 miles beyond the present terminus of the track. The ties are nearly all on the ground, and a large quantity of iron is on hand. The Howe truss bridges on the road are being built by Wells, French & Co., of Chicago, and the pile bridges by J. N. Martin, of Burlington, Ia.

### Peoria & Rock Island.

The general freight and ticket offices of this company and the Davenport & St. Paul Company were removed from Peoria, Ill., to Davenport, Ia., March 18.

### Berks County.

The work of laying track on the first section of 20 miles will be commenced early in May, and 600 tons of iron has already been received. The contracts for the grading of the remaining 20 miles will be given out April 9.

### Kansas Pacific.

Permanent stock yards, with conveniences for watering and feeding cattle, have been established at Ellis, Kan., 302 miles west of Kansas City. The company has added 300 new stock cars to its equipment.

### Mineral Range.

This company has contracted with the Cambria Iron Company at Johnstown, Pa., for the necessary iron to lay the track from Portage Lake, Mich., to Calumet. A locomotive and some cars have also been ordered.

### Grand Trunk.

The new steam ferryboat "International," built for this company, is described as follows: "The boat is designed to carry as many as 31 cars at one time across the St. Clair River, between Port Huron and Sarnia. With the exception of her deck covering and guards, she is built of iron. The hull is 226 ft. in length, by 40 ft. beam and 14 ft. depth. The boat weighs scarcely 600 tons light, much less than a wooden vessel of the same capacity. When loaded, she draws 6 ft. 4 in. forward, and 7 ft. 8 in. aft. Light, she draws 6 ft. aft, and 4 ft. 6 in. forward. The speed of the boat is about 9 1/2 miles per hour. The hull was built by Palmer's Shipbuilding and Iron Company (limited), of Jarrow, England; it was then taken to pieces, shipped across the Atlantic, and put together again at Fort Erie, opposite Buffalo, where the boat was launched and received her machinery. The latter comprises two separate high-pressure steam engines of 150 horse-power each, which drive twin screws 9 feet in diameter. The cylinders are 30 in. in diameter, with 30 in. stroke of piston, acting directly on the shafts, which are 8 1/2 in. in diameter. The engines are supplied with steam from separate cylindrical boilers, each 7 ft. in diameter and 19 ft. in length, including furnace, and containing 156 3-inch flues, 12 ft. in length. The engines and boilers were built by Gilbert & Co., of Montreal."

### Old Colony.

This company is having 70 freight cars built by H. T. & O. N. Keith, of West Sandwich, Mass., and 100 dump cars by the Hanlett Manufacturing Company, at Leaconia, N. H. It has a switching engine and a passenger engine under way at its shops in South Boston, and will begin another at once. It is also building three new smoking and baggage cars, and putting "monitor" tops on all its old coaches. It has recently completed a new locomotive, the "Bristol," with 16 by 24 cylinders and 5 1/2 feet drivers, weighing 65,000 pounds.

### Petersburg.

It is said that suit is to be commenced against Mr. Reuben Ragland, President of this company, to recover the money which he has received as accrued interest on the preferred stock, originally belonging to the State, which he purchased from the city of Petersburg.





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## CONTENTS.

ILLUSTRATIONS:	Page	GENERAL RAILROAD NEWS:	Page
Baltimore & Ohio Freight-Car Truck.....	116	The Scrap Heap.....	123
Pivot Bridges.....	116	Old and New Roads.....	117 and 123
CONTRIBUTION:		Annual Reports.....	123
Pivot Bridges.....	116	MISCELLANEOUS:	
EDITORIALS:		Baltimore & Ohio Freight-Car Truck.....	115
The Pennsylvania Report.....	118	Railroad Men before Railroad Committees.....	115
Progress of Rates and Traffic on an Illinois Railroad.....	118	Mr. Joy on the Detroit Tunnel.....	115
St. Croix & Superior Land Grant.....	118	Sny Island Levee.....	115
EDITORIAL PARAGRAPHS.....	119	Train Accidents in February.....	119
GENERAL RAILROAD NEWS:		Report of the Pennsylvania Railroad Company for 1872.....	121
Traffic and Earnings.....	122	Locomotive Reports.....	124
Elections and Appointments.....	122		
Personal.....	123		
Chicago Railroad News.....	123		

## Editorial Announcements.

**Correspondence.**—We cordially invite the co-operation of the railroad public in affording us the material for a thorough and worthy railroad paper. Railroad news, annual reports, notices of appointments, resignations, etc., and information concerning improvements will be gratefully received. We make it our business to inform the public concerning the progress of new lines, and are always glad to receive news of them.

**Articles.**—We desire articles relating to railroads, and, if acceptable, will pay liberally for them. Articles concerning railroad management, engineering, rolling stock and machinery, by men practically acquainted with these subjects, are especially desired.

**Inventions.**—No charge is made for publishing descriptions of what we consider important and interesting improvements in railroad machinery, rolling stock, etc.; but when engravings are necessary the inventor must supply them.

**Advertisements.**—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for pay except in the ADVERTISING COLUMNS. We give in our editorial columns our own opinions, and those only, and in our news columns present only such matter as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

## THE PENNSYLVANIA REPORT.

The property whose operations are included in the twenty-sixth annual report of the Pennsylvania Railroad Company (which we publish elsewhere) includes, besides the Pennsylvania Railroad proper, with its 358 miles of main line and 426 miles (this year) of branches, the Philadelphia & Erie Railroad, 288 miles, and the railroads and canal leased from the United Companies of New Jersey and other New Jersey companies (456 miles of railroad and 65 of canal). Thus it covers a total of 1,528 miles of railroad and 65 miles of canal, which is the extent of the property worked by the Pennsylvania Railroad Company directly, and does not extend over a large territory, being bounded by the Hudson River on the east, Pittsburgh and Erie on the west, nowhere going south, west or north of the borders of Pennsylvania, and forming, as will be seen at a glance, a very compact, and, for the most part, harmonious system, the Philadelphia & Erie being connected with the rest, however, by a road not worked by the Pennsylvania Railroad Company, though it controls it.

Of this large mileage, only a comparatively small proportion is composed of lines of national importance or with very heavy traffic. The main line of the Pennsylvania railroad, 358 miles, and the 89 miles from Philadelphia to New York form a line which is perhaps first in importance of the railroad routes of the country, as it is a main channel through which flows most of the traffic to the great commercial, manufacturing and consuming districts from the South and Southwest, the Ohio valley and the Mississippi valley as far north as St. Louis, while it has somewhat the shortest route and a very large share of the traffic of the Northwest and interior as far east as Erie, going to and from New York and points south of it. One cannot go from New York directly to any point in the Union south of a straight line from Philadelphia to St. Louis without passing over some part of this route from New York by way of Philadelphia to Pittsburgh; and to points farther north as far east as Erie it is at least as short a route as any other. From the Northwest and the country adjoining the lakes it is not the most favorable route to New England, and it has very little to do with any traffic originating in the State of New York and moving eastward, though lately Buffalo has been made accessible to it. We see, then, that the main line worked by the Pennsylvania Railroad is a route to New York for nearly all that part of the United States which produces more agricultural

produce than it consumes, while for a large part (though not the most productive and wealthiest) it is almost the only route. No line in the nation can compare with it in the extent of the country which it serves, and it is natural to suppose that the account of its working has a general interest such as attaches to very few corporation reports.

The report of the directors, read at the annual meeting of the company last week, which we republish nearly in full, though a very long document and containing many very interesting figures, does not give much information of the amount and condition of the property. It is easy to ascertain the mileage of road, but that is only an approach to a description of the permanent way even; as second and third tracks and sidings may make one line a hundred miles long three or four times as capacious as another. Of equipment it gives no information whatever. This information, however, is not concealed, but has been published elsewhere every year.

An examination of the figures of the report, which gives quite fully the earnings and expenses and the average receipts per ton and passenger per mile, shows that the lines are very unequal in their traffic. Thus while the 358 miles of main line in Pennsylvania earned more than twenty millions, or the enormous amount of \$55,896 per mile, the 426 miles of branches in that State earned almost exactly one-tenth as much, or a trifle over two millions, being at the rate of \$4,699 per mile; and if we compare the profits the discrepancy is still greater; for the net earnings of the main line were \$32,934 per mile, and those of the branches only \$1,239 per mile. When the rentals for such of the branches as are not owned were paid, the net profit to the company of these 426 miles of road was but \$7,584, or only \$18 per mile! One might argue hastily from this that the branches are an incumbrance to the property, but the conclusion would doubtless be erroneous, as they bring to the main line a large proportion of its traffic, which adds materially to the gross profits of the system.

There is no separation of the earnings of the main line and branches of the leased New Jersey roads, which would have been very interesting, but the 376 miles of the United Railroads is reported as one system, the Belvidere Delaware and the Flemington Branch (80 miles) as another, and the Delaware & Raritan Canal (65 miles) as a third. The Philadelphia & Erie is also reported separately. The better to compare these properties, their earnings, expenses and charges, we have made the following table, giving the earnings per mile of road, percentage of expenses to earnings, and receipts per ton of freight per mile, for the different lines and systems, as reported:

	Earnings per mile.	Per cent. of expenses.	Receipts per ton per mile.
Pennsylvania Railroad, main line.....	\$55,896	59.93	1.4163 cents.
" " branches.....	4,699	73.63	2.55 "
and branches.....	28,077	62.53	1.11 "
United Railroads of New Jersey.....	21,985	72.64	1.11 "
Belvidere Delaware and Flem. Br.....	7,035	91.34	1.11 "
Delaware & Raritan Canal.....	91,771	71.79	1.19 "
Philadelphia & Erie.....	18,822	82.50	1.19 "

The earnings of the entire New Jersey leased property, 521 miles in all, including 65 miles of canal, were at the rate of \$20,087 per mile, and of the entire property covered by the report, 1,593 miles of line, \$32,830 per mile, the New Jersey property being a little below the average; and the percentage of working expenses for the whole was 69.76. Thirty per cent. of the gross receipts of the property were thus returns on the capital invested.

Comparing the road with the two other leading routes from New York to the West, we find that the tonnage mileage and receipts per ton per mile were, for the last year reported (ending with September, 1872, for the New York Central and the Erie, and with December for the Pennsylvania), as follows:

	Length, miles.	Tonnage mileage.	Receipts per ton per mile.
New York Central & Hudson River.....	851	1,030,908,835	1.59 cents.
Erie.....	954	950,708,912	1.63 "
Pennsylvania.....	784	1,190,306,270	1.42 "

Thus the Pennsylvania with the smallest mileage has the largest tonnage, caused probably by the mineral traffic on many of the branches, which affords a large tonnage at low rates, while the other two roads have very little such traffic originating on their own lines. Comparing the tonnage per mile the roads rank as follows, the number given being of tons moved one mile per mile of road:

Pennsylvania.....	1,518,120
New York Central & Hudson River.....	1,199,658
Erie.....	996,550

Thus the New York Central has about one-fifth more than the Erie, and the Pennsylvania one-fourth more than the New York Central.

The report shows very satisfactorily the growth of the traffic of the lines and the necessity of extensive improvements of parts, especially the New Jersey lines, to make them equal to the traffic. There can be no doubt that the improvement of such a road, for which traffic is waiting, as it were, is a very much better investment of money, both for the public and the investors, than the

construction of new roads with traffic yet to be developed can possibly be. We may have something more to say of this in connection with a consideration of the company's capital account.

## Progress of Rates and Traffic on an Illinois Railroad.

A study of the rates and traffic for a series of years of one of the principal lines entering Chicago, is worth consideration, especially at this time, when there are so many complaints of rates, and charges that the railroads are making the condition of farmers and others worse instead of better, by increasing instead of decreasing their charges for transportation. We have, therefore, compiled the statements of tonnage, freight earnings and receipts per ton per mile for the Chicago, Burlington & Quincy Company for a period extending back to the close of the war. We have taken this road because its reports have been complete and uniform for a series of years, and further because its report for the last two-thirds of 1872 is the first which gives information of tonnage mileage and average receipts.

The tons moved one mile, the total freight earnings and the receipts per ton per mile since April, 1865, have been:

	Tonnage Mileage.	Freight Earnings.	Receipts per ton per mile.
1865-'66.....	113,766,900	\$1,304,741	3.69 cents.
1866-'67.....	142,955,400	4,124,593	2.89 "
1867-'68.....	132,435,500	4,216,911	3.18 "
1868-'69.....	146,499,400	4,754,864	3.25 "
1869-'70.....	147,409,300	4,714,629	3.06 "
1870-'71.....	206,919,500	4,949,644	2.38 "
1871-'72.....	240,857,000	5,599,874	2.19 "
1872*.....	184,695,000	3,814,067	2.18 "

\* 8 months only.

The growth in tonnage and earnings is largely due to an increase in mileage, much of which has a light traffic which cannot be conducted so cheaply as that on the old lines, so that the reduction in rates is, for that part of the lines, more considerable than appears here. It is also proper to say that the through traffic on those lines has increased much faster than the local, so that the average decrease may be greater in the table than for the way traffic alone. The cheapness of through traffic, however, is the condition of the existence of the farmers beyond the Mississippi, and without it the land there would hardly be valuable. But as they stand the figures are very instructive, and it seems to us, very encouraging to every one whose business is largely affected by the cost of transportation. The first year in the table began almost exactly with the close of the war, when the currency began to be comparatively stable, and the dollar had about the same value as a dollar now. In that time we see a decrease from 3.69 to 2.18 cents per ton per mile in the charges on freight, which is a falling off of more than 40 per cent., and the decrease has been greater for the last half than for the first half of the period, having been very nearly one third since 1868-69.

It is not at all probable that there has been so great a decrease at all stations. A uniform decrease would have been unjust in many cases and impossible in many others, traffic having grown greatly at some places and scarcely at all at others, and the large number of new competing roads having made it necessary to take rates which permit but a very small and unsatisfactory profit from many stations, or else take no traffic and make no profits from those points. This latter point was put very clearly by Mr. Robert Harris, the General Superintendent of this road, in his address before the railroad committees of the Legislature, as indeed were many other features of railroad business; and to everyone who knows anything of Mr. Harris—knows his intimate knowledge of the business of transportation and his conscientiousness in whatever statements he makes—the speech will carry conviction with it.

Probably the increase of new railroads east of the Mississippi has for the most part prevented rather than favored a uniform decrease of rates. Certain points have had their business done for them at unduly low prices, traffic has been divided which could have been carried more economically on one than on two or three lines, and however great has been the decrease in rates, it is less, and much less uniform, than it might have been had there been fewer new roads to support and to depress rates unduly at competing points.

## The St. Croix &amp; Superior Land Grant.

The contest which has taken a large part of the time of the present session of the Wisconsin Legislature, with reference to the disposition of the land grant originally granted to aid in the construction of a railroad from St. Croix to Bayfield, Wis., but which had fallen to the disposition of the State by reason of the failure of the St. Croix & Superior Company to construct its road within the specified time, came virtually to a close on the 11th inst., by the passage of a bill by the House giving the land to the Milwaukee & St. Paul Company, on condition that it construct the line from St. Croix to Bayfield, with a branch to Superior, about 200 miles; also a line from the Mississippi up the Chippewa valley through a lumber district, about 90 miles; and an extension of its present line to Monroe, in southwest Wisconsin, west 30 miles to the Mineral Point



road, through a country hilly and not affording much traffic. Thus the company undertakes to construct in the State about 320 miles of new railroad, in return for which it gets a grant of 1,280,000 acres of land (just 4,000 acres per mile), much of it being pine land valuable for lumber as soon as it is made accessible, the money worth of which has been estimated at from \$6,000,000 to \$20,000,000. The lower estimate would give nearly \$20,000 per mile of road to be built; but while the aggregate sales of the land may finally amount to much more than six millions, it is not probable that nearly so much could be realized by an immediate sale. The land, however, will give a good basis for borrowing the money needed for building the roads, and doubtless can be held till they can be sold to the best advantage. All the lines, except perhaps the extension from Monroe to Shullsburg, will be through very thinly-peopled districts which are not very promising agriculturally, but which will, for considerable distances at least, afford a large lumber traffic, which, so long as it lasts, may be quite as profitable, perhaps, and quite as bulky as the agricultural traffic of a fertile district. The new lines will not be altogether in harmony with the company's present system, as the route to Bayfield and that up the Chippewa will be at right angles (or somewhat sharper) with the company's trunk line to Milwaukee; but then not a great deal of their traffic will be likely to want to go to Milwaukee, as the lumber will go to Southern Minnesota and Iowa, or down the Mississippi, the supplies for the lumber districts from Wisconsin and the above-named States, and the line to Bayfield will also afford a new route to the lake for the wheat below its southern terminus. So the roads will form a system by themselves, comparable slightly to the Lake Superior & Mississippi.

There were numerous contestants for the grant, and the State had the full benefit of their competition, to such a degree that it seems probable that much more could have been effected by the Government land grants if they had been open to competition, so that the company constructing the greatest number of miles of road should have a definite land grant; or a definite line of road should be constructed by the company which would accept the smallest land grant for it. In this case, the leading competitors were really the two great railroad corporations of Wisconsin—the Milwaukee & St. Paul and the Chicago & Northwestern—which until within two or three years owned nearly every foot of railroad in the State. The Northwestern, however, did not compete directly for the grant, but it supported the claim of the North Wisconsin, which in 1871 constructed 18 miles on the original line from Hudson, northeastward toward Bayfield, with the intention of securing the grant. This company was substantially identical in personnel with the West Wisconsin, which has recently shown great vigor and success in constructing its railroad, and affords the Chicago & Northwestern its route to St. Paul. There were other claimants, however, most of whom could not show satisfactorily that they could command capital for such an undertaking, and there was a proposition for constructing railroads by the State.

That the proposition accepted was the one most favorable to the State we will not say, not knowing just what other companies offered, or whether those which offered most could fulfill their promises. It is evident, however, that the State will secure the construction of a very large amount of new railroad by the grant—about two-thirds more than the grant was originally offered for—and the road is where the traffic alone, for some time to come, would hardly attract capital for their construction.

**THE STRIKE OF ENGINEERS** on the St. Louis, Kansas City & Northern Railway, brief notice of which is made elsewhere, seems to have been attended with more violence than any similar movement in this country for several years, and the cause we have seen assigned is so inadequate that we hesitate to accept it until confirmed. The strike is remarkable as having been made by the members of the Brotherhood of Locomotive Engineers, which has heretofore been engaged in no such movement, we believe, and has publicly announced that combination for striking forms no part of its objects. As we go to press a telegram announces that the officers of the Brotherhood refuse to indorse the strike, and counsel those engaged in it to resume work.

**THE LAKE MARINE**, according to the *Detroit Tribune*, at the close of 1872, consisted of 5,429 vessels of all kinds, with an aggregate capacity of 717,299 tons, and valued at \$53,943,000. This is an average of about \$75 per ton, which is just about equal to the cost of freight cars per ton of capacity. The increase in tonnage since 1863 has been about 75 per cent. These estimates are for the vessels above Niagara Falls, and so exclude those on Lake Ontario.

#### Train Accidents in February.

The extremely cold weather continuing through this month and the frequent snow-storms have had an effect similar to that in January, when we reported so painfully large a number of accidents. Although this month we record but 133, against 178 in January, yet as the month had but 28 days to January's 31, the rate has been decreased less than might appear. There was an average of 5.74 accidents daily in January and of 4.75 in February. The following is the list:

Very early on the 1st, near Fernandina, Fla., a passenger train ran into a log train, badly damaging the passenger locomotive and a number of box cars, and injuring the passenger fireman seriously.

On the morning of the 1st, in the switching yard at Indianapolis, on the Indianapolis & Chicago Division of the Pittsburg, Cincinnati & St. Louis Railway, an engine was thrown from the track by a broken frog, and the tender fell over upon and killed the engineer, who had jumped.

On the afternoon of the 1st, on the Vandalia Line, near Greencastle, Ind., there was a collision between a west-bound

and an east-bound freight train, badly damaging both engines, and ditching twelve cars. The *Terre Haute Express* says: "The cause was criminal disregard of the time card by the conductor of the west-bound train No. 12, who, though 45 minutes late, left Greencastle three minutes after the eastward-bound train, which was exactly on time, had left the Junction."

On the night of the 1st, on the Detroit, LaSalle & Lake Michigan Railroad, at Salem, Mich., a wood train ran into the rear of a freight train and killed an old man who was trying to escape from the caboose by way of the front platform.

On the morning of the 3d, five cars of an extra freight train on the New York Central & Hudson River Railroad were thrown from the track at Spuyten Duyvil, N. Y., by a broken wheel. Both tracks were obstructed for a while.

On the 3d, two miles east of Monocacy, on the Philadelphia & Reading Railroad, a tire on one of the front driving-wheels broke and a piece flew into the cab, slightly injuring the engineer.

On the 3d, four cars of a freight train on the International & Great Northern Railroad near New Waverly, Texas, were ditched, and two of them broken up, blocking the track about a day.

On the night of the 3d, about a mile north of North Dorset, Vt., on the Harlem Extension Railroad, both connecting rods of the locomotive of a north-bound mail train broke, and one was thrown through the cab.

On the morning of the 4th, at Quincy, Ill., in the yard of the Chicago, Burlington & Quincy Railroad, as a ten-wheeled switching locomotive was standing on a side track, its boiler exploded with great force, slightly injuring the fireman who was in the cab.

On the morning of the 4th, ten miles west of Little Rock, Ark., on the Little Rock & Fort Smith Railroad, a passenger train ran off the track while rounding a curve, and the tender and coach turned upside down at the foot of the embankment, severely injuring several persons.

On the morning of the 4th, a mile west of Whetham, Pa., on the Philadelphia & Erie Railroad, an east-bound passenger train ran into a snow-slide, four or five feet deep, which threw the engine and tender down the bank and the baggage car across the track, and killed the engineer and slightly wounded the fireman.

On the 4th, an engine on the Burlington, Cedar Rapids & Minnesota Railroad ran through an open switch and beyond the rails of the lower track in Burlington, Iowa.

On the afternoon of the 4th, on the Memphis line of the Louisville & Nashville Railroad, three miles south of Russellville, Ky., the ladies' coach and a sleeping car of a passenger train were thrown from the track by a broken rail, and down an embankment, killing two passengers and injuring ten.

On the night of the 4th, at Howells, on the Erie Railway, a stock train ran into a coal train, wrecking the engine and several cars.

On the night of the 4th, near midnight, as a west-bound freight train on the Toledo, Peoria & Warsaw Railway was crossing a bridge at Lister's Point, Ill., a wheel broke under a coal car, and that car and two others went over into the ravine, and several others left the track.

On the morning of the 5th, near Manteno, Ill., on the Illinois Central Railroad, the engine, tender, and the baggage and express cars of a passenger train were wrecked by a broken rail, and the engineer and fireman were seriously hurt.

On the 5th, two freight cars of a mixed train on the Niagara Falls Division of the New York Central & Hudson River Railroad were thrown from the track on a high embankment near Holly, N. Y., as the train was slowing up for the station. One truck rolled down the bank, but nothing else.

On the morning of the 6th, just above Mill Creek, Michigan, on the Grand Rapids & Indiana Railroad, five cars of a freight train were thrown from the track by a broken rail.

On the 6th, a freight train on the Cincinnati & Indianapolis Junction Railroad was wrecked about 35 miles from Indianapolis.

On the 6th, 15 miles west of Crawfordsville, Ind., on the Indianapolis, Bloomington & Western Railway, a freight train broke through some trestle work, and twenty cars were wrecked.

Between two and three o'clock on the morning of the 7th, a wheel broke under a car of merchandise in a freight train on the New York Central & Hudson River Railroad just above the station at Fishkill Landing. This threw the car from the track, and in this condition it was dragged over the ties (and over five culverts) for five miles, when at last the car swung across the track and the accident was discovered.

On the 7th, about three o'clock in the morning, about half a mile above the Winona & St. Peter depot in Winona, Minn., an up passenger train of the Milwaukee & St. Paul road and a down freight of the Winona & St. Peter ran into each other and the engines were badly damaged.

On the 7th, a parallel rod broke on an engine drawing a passenger train on the Indianapolis, Peru & Chicago Railroad, and the revolutions of the rear end crushed through the cab, barely missing the engineer.

Shortly after midnight on the morning of the 8th, a rail was broken loose under a south-bound passenger train on the Madison Division of the Chicago & Northwestern Railway, and the third coach and sleeping car behind it were thrown across the track, delaying the train nine hours.

Very early in the morning on the 8th, between Brocton and Westfield, N. Y., on the Lake Shore & Michigan Southern Railway, an express train, consisting of a locomotive, two baggage cars, one emigrant car and two coaches, was thrown from the track, the engine was capsized and the engineer and fireman and two passengers were injured.

On the morning of the 8th, three cars, one of them a passenger car, of a local train on the Lake Superior & Mississippi Railroad were thrown from the track by a broken rail about a mile north of St. Paul, Minn.

On the morning of the 8th, four cars of a north-bound local freight train on the Rutland Railroad were thrown from the track by the breaking of a brake, and three of them were badly broken up.

On the 8th, a west-bound mail train on the Pittsburgh, Fort Wayne & Chicago Railway jumped the track near Canton, O.

On the evening of the 8th, a passenger train on the Philadelphia & Reading Railroad ran into a coal train at Mount Carbon, Pa., and the engine, baggage car and ladies' car of the passenger train were thrown down the bank. The baggage car was burned and the passenger car partly burned. The engineer and fireman were seriously injured. The conductor of the coal train was blamed.

On the 9th, a train on the Oregon Division of the Central Pacific Railroad ran off the track at a point where floods had washed away the embankment, and the engineer was slightly hurt.

On the night of the 9th, six cars of a north-bound express train on the New York Central & Hudson River Railroad ran off the track at Coxsack, N. Y., on account, it is reported, of a misplaced switch. The trucks of these cars were badly broken. The switch signal was properly shown, but the light was not burning, and it was not discovered until it was too late to stop the train. A correspondent of the *Poughkeepsie Eagle* reports the following conversation had by him with two station men:

"Reporter—Are you the son of the station agent?"  
"Son—Yes sir."

"Rep.—Did your father ask you to light the switch signals last night?"  
"Son—Yes sir, he did."

"Rep.—Did you tell him the weather was too cold?"  
"Son—Yes sir."

"Rep.—Well, wasn't that a neglect of duty?"

"Son—Well, I don't know; I s'pose so. I s'pose if I had lighted them this wouldn't have happened."

"Rep. (to the father)—Did you tell your son to light the switch signals last night?"

"Father—Yes sir."

"Rep.—What did he say?"

"Father—He thought the weather was too cold."

"Rep.—Then the switch signals were not lighted at all?"

"Father—No sir."

On the night of the 10th, as a north-bound accommodation train on the Allegheny Valley Railroad was running near Scrub Grass, Pa., five oil cars and one coach were thrown from the track, and the latter, after turning one and a half times over, landed bottom up in four or five feet of water in the Allegheny River. The oil from the broken tanks ran over the surface of the water and caught fire from the stoves in the coach, which was burned. Three persons were killed and 14 injured, most of the latter being slightly burned. A broken rail and a fallen brake have been assigned as causes of the derailment.

On the night of the 10th, near Cutler, Ohio, on the Marietta & Cincinnati Railroad, there was a collision between two fast freight trains, by which much damage was done to rolling stock and one man was seriously hurt.

On the evening of the 10th, near Fall Creek Bridge, on the Indianapolis, Cincinnati & Lafayette Railroad, nine cars of a freight train were thrown from the track and seven of them badly wrecked by the breaking of a wheel.

On the afternoon of the 10th, the breaking of a truck threw some cars of an express train on the Erie Railway from the track at the Bergen Tunnel, N. J.

On the 10th, an east-bound freight train on the Boston, Clinton & Fitchburg Railroad was thrown from the track at Gates' Crossing, Mass.

About 2 o'clock in the morning on the 11th, there was a collision between two freight trains on the New York Division of the Pennsylvania Railroad between Elizabeth and Linden, N. J.

At 4 o'clock in the morning of the 11th, a west-bound express on the Philadelphia & Erie Railroad encountered a broken rail two miles west of Ridgeway, Pa. The engine, tender and baggage car passed over safely, two passenger cars went down the bank six or eight feet, and the sleeping car at the rear remained on the track. One of the cars landed on its top, the other on its side. Fifteen passengers were hurt, but none very seriously. The train was running very slowly at the time.

On the morning of the 11th, at Stafford's Crossing, Vt., on the Harlem Extension Railroad, the passenger car of a north-bound mixed train was thrown from the track by a broken rail, and before the train could be stopped the trucks of this car were ruined.

On the morning of the 11th, one car of a freight train on the Illinois Central Railroad jumped the track and turned over on its side, at Kankakee, Ill.

On the 11th, about a mile south of Marlboro, N. H., on the Cheshire Railroad, as a mail train was passing along a rocky hillside, one of the driving axles broke, and a wheel fell off and into a stream below.

On the evening of the 11th, a mixed train on the Toledo, Wabash & Western Railway was thrown from the track between West Point and Attica, Ind., and nine freight cars were piled together in ruins, and the track blocked about ten hours.

On the night of the 11th, a few miles west of Brazil, Ind., on the Vandalia Line, an express train ran into a caboose and two flat cars that had broken from the rear of a freight train.

On the night of the 11th, one coach and a sleeping car of a west-bound passenger train on the Toledo, Wabash & Western Railway were thrown into the ditch by a broken rail near Versailles, Ill.

About 4 o'clock on the morning of the 12th, as an east-bound passenger train on the Philadelphia & Erie Railroad was running about 15 miles east of Kearsy, Pa., the whole train, except the engine and baggage car, was thrown from the track by a broken rail, and one coach and a sleeping car were badly wrecked. The engineer and two passengers were considerably hurt.

Early in the morning of the 12th, an east-bound freight train on the Boonton Branch of the Morris & Essex Division of the Delaware, Lackawanna & Western Railroad ran into the head of a coal train, badly wrecking both engines and a number of cars, and blocking the track for several hours.

On the morning of the 12th, near Mount de Chantal, a coach of a passenger train on the Hemphill Railroad was thrown from the track by a broken rail.

On the 12th, at 11 a. m., a mail train approaching the station at Jackson, Mich., on the Michigan Central Railroad, ran into a coal train which stood partly upon a side track, damaging all the coaches more or less.

On the 12th, a north-bound express train on the Wisconsin Division of the Chicago & Northwestern Railway met a broken rail near Shopiere, Wis., and all the cars but one were thrown from the track, with very little injury, however, either to passengers or cars.

On the afternoon of the 12th, about a mile north of Irondale, O., four coaches of a south-bound express train on the Cleveland & Pittsburgh Railroad were thrown from the track by the breaking of a rail joint, and three passengers were slightly and one badly injured.

On the evening of the 12th, near Manchester, Vt., on the Harlem Extension Railroad, the trucks of a passenger car on a north-bound train were thrown from the track by a broken rail, and in this condition it was dragged over a bridge about 30 feet long, cutting out nearly every tie, but no other car left the track and little damage was done to cars.

On the evening of the 12th, a west-bound express train on the Erie Railway was thrown from the track at Goshen, N. Y., by reason of a misplaced switch, it is reported.

On the evening of the 12th, 13 miles east of Elko, Nev., near Osimo, on the Central Pacific Railroad, there was a collision between an east-bound passenger train and a west-bound freight, on a short course through a curve on Humboldt River, by which both engines were ruined; one corner of the mail car was crushed in, and a coal car from the freight train piled on top of it, but no other damage than the breaking of draw-bars was done to the passenger cars. The passenger tender went down the bank into the river, and six cars of the freight train were more or less broken up. The fireman of the freight train and a brakeman were injured.

A telegram reports that the passenger train was running slowly and the freight at high speed, that the engines were not more than 400 feet apart when the danger was discovered; that the air-brake nearly stopped the passenger train before the shock, but that the brake and reversing the freight were insufficient to check it materially. It was also widely telegraphed that the accident was owing to the inconsistent orders given by the train dispatcher at Carlin, which was not true and very unjust to the dispatcher. An officer of the company cognizant of the facts writes us that the cause of the collision was carelessness on the part of the conductor, J. W. Sparks, and the engine man, Joseph P. Johnson, of the freight train, both of whom disappeared soon after the accident and could not be found.

About 10 o'clock on the morning of the 13th, a freight train on the Erie Railway ran off the track at a bridge near Basket, 58 miles west of Port Jervis, and some of the cars went over and into the stream.

Early in the morning on the 13th, the postal car, first-class coach and sleeping car of an east-bound express train on the Grand Trunk Railway were thrown from the track by a broken rail and upset at some distance west of Prescott, Ont., com-



pletely destroying the first class car and injuring seven passengers.

On the 13th, the locomotive of a passenger train on the Kansas City, St. Joseph & Council Bluffs Railroad was thrown from the track near St. Joseph, Mo., by a tie which some one had placed on the track.

On the night of the 13th, near Cleves, O., on the Indianapolis, Cincinnati & Lafayette Railroad, an east-bound passenger train ran off the track and a sleeping car was overturned and one passenger badly hurt.

Near midnight on the 13th, the truck of a coal train on the New York & Oswego Midland Railroad jumped the track near Oneida Community, and in that condition the car was dragged a quarter of a mile, till, when the train reached a trestle, two cars pitched over to the ground, 23 feet below. Two hundred ties were splintered under the wheels.

On the 14th, about 1 o'clock in the morning, the engine of a freight train jumped the track of the Erie Railway, near the depot in Paterson, N. J., and tore up the planking between the tracks for some distance.

On the morning of the 14th, a freight train on the New York Central & Hudson River Railroad was thrown from the track by a broken rail near Holly, N. Y., fatally injuring the conductor, George A. Snaler. He lived long enough, however, to send back a flag to warn a following express train.

On the morning of the 14th, several cars of a freight train on the St. Paul & Sioux City Railroad were thrown from the track near Mankato, Minn., and the road was blocked about a day.

About 8 1/2 o'clock in the morning on the 14th, a mail train on the Illinois Central Railroad ran off the track at a switch near Calumet, Ill., the engine stopping 30 feet from the track, the tender and mail car being overturned, and the express messenger slightly injured.

On the afternoon of the 14th, an east-bound passenger train on the Indianapolis, Bloomington & Western Railway ran over a cow near Champaign, Ill., by which the rear coach was thrown into the ditch.

On the morning of the 14th, near Belchertown, Mass., on the New London Northern Railroad, the locomotive, baggage car and one coach of a passenger train were thrown from the track by a broken rail while running at the rate of 35 miles an hour on an embankment 30 feet high, but stopped before going over.

On the afternoon of the 14th, at Bonaventura Station, on the Grand Trunk Railway, the boiler of a switching engine which was standing on a side track exploded. The engineman, who was standing on the boiler at the time, was thrown forty feet and against a house and instantly killed, and the fireman was badly scalded. A woman standing in a doorway at some distance was fatally injured by a fragment of the boiler.

On the afternoon of the 14th, as a freight engine was taking in water at Carpenter's Station, on the Northern Central Railway, the boiler exploded, badly scalding the engineman, fireman and a flagman.

On the afternoon of the 14th, on a bridge on the Knox & Lincoln Railroad just above Wiscasset, Maine, an east-bound freight ran off the track and four cars were damaged.

On the afternoon of the 14th, four miles west of Young America, Ill., on the Burlington Division of the Chicago, Burlington & Quincy Railroad, the draft iron broke from the tender and fell upon the track, causing two cars to go down the bank.

On the morning of the 14th, as a way train on the New Jersey Division of the New York & Oswego Midland Railroad was backing out of a switch at New Durham, N. J., the engine ran off the track at a frog and blocked the track two hours.

On the morning of the 15th, on the Chicago & Northwestern Railway four miles east of Fulton, Ill., seven cars of a freight train were thrown from the track and into the ditch.

On the afternoon of the 15th, four miles above Cairo, Ill., on the Illinois Central Railroad, eleven cars of a south-bound freight train were thrown from the track by a broken rail and three of them demolished.

On the 15th, near Connellsville, Pa., on the Mount Pleasant Branch of the Pittsburgh, Washington & Baltimore Railway, as a freight train was backing into a siding, the rear car ran over a hog, and was thrown from the track, and the conductor and a brakeman who were in the car were fatally hurt.

On the night of the 15th, as a freight train was backing over a bridge near Medina, N. Y., on the New York Central & Hudson River Railroad, it ran over a man who was crossing the bridge, and this threw one of the trucks from the rails, and as this derailed truck was being dragged over a bridge over a street in the town, the bridge gave way and six cars fell into the street below.

On the night of the 16th, near Duck Hill, Miss., on the Mississippi Central Railroad, the sleeping cars of a south-bound mail train broke loose, snapping the bell-cord and causing the engineman to stop as quickly as possible, when the loose cars ran into the end of the ladies' car with such force as to throw the passengers from the seats, injuring three persons somewhat.

On the morning of the 17th, as a passenger train on the Erie Railway was passing Rutherford Park, N. J., a coupling broke, and several cars were thrown from the track and damaged to the amount of about \$5,000.

On the morning of the 17th, a mile east of Cedar Rapids, Iowa, as a freight train was running slowly over a steep embankment, eleven freight cars were thrown from the track by a broken rail. Ten of the cars were loaded with stock.

On the 17th, at ten o'clock, as an engine was going up the New York Central track to West Albany, the steam-chest exploded, and then the engine backed down the grade at great speed and ran into an engine standing at the depot, disabling both locomotives.

On the 17th, a little after noon, as a north-bound passenger train on the Allegheny Valley Railroad was near Hillville, Pa., a broken rail threw one coach and one coal car from the track, and three passengers were slightly injured.

On the 17th, near Hickory, Tenn., on the Mississippi Central Railroad, a freight train went into the ditch and several cars of cattle were crushed.

On the morning of the 18th, just after midnight, near Morgan's Corner, Pa., 12 miles west of Philadelphia, on the Pennsylvania Railroad, the two rear sleeping cars of a west-bound express of eight cars broke off, and, being misad after the train had gone a mile, the train was backed toward them. They were moving fast toward it, however, and the result was a collision by which a baggage-master, who was caught between cars, was dangerously injured, and a passenger, who jumped from a car window, was killed. One car crushed into the other about 10 feet, at the rear of the part connected with the engine.

On the morning of the 18th, on the New York Central & Hudson River Railroad, as a detached engine was backing toward a turn-table at Yonkers it came in collision with a freight train moving in the opposite direction. The shock was slight, and did no other injury than to startle the engine. The detached engine (the engineman having closed it, and, with the fireman, jumped to escape the supposed danger), so that it immediately started forward at a rapid rate in advance of the freight, and, soon acquiring extraordinary speed, overtook and ran into the rear of a mail train near Hastings, nearly four miles from Yonkers. It crushed through the rear car, which telescoped with the car in front of it, injuring the conductor and brakeman fatally, and two passengers slightly. The Yonkers switchman and some trackmen swore positively at the inquest that the signal was set for danger; but several trainmen swore as positively that it was set for safety.

On the morning of the 19th, as a south-bound milk train and a north-bound suburban train on the New York Central & Hudson River Railroad were passing each other just above the city of

New York, the milk train was thrown from the track by a broken wheel, and struck the rear car of the suburban train and wrecked it. One person was injured.

At 5:30 on the morning of the 19th, as an east-bound mail train on the Little Rock & Fort Smith Railroad was rounding a curve two miles east of Plumers, Ark., the rear car (a box car containing 83 passengers) jumped the track, so that the rear end fell down the bank, and in that condition the car was dragged about a hundred yards, injuring 24 persons, one of them mortally.

On the morning of the 19th, at Poughkeepsie, N. Y., on the Poughkeepsie & Eastern Railroad, a locomotive and tender were thrown from the track by accumulated ice and snow and went down the bank.

On the afternoon of the 19th, near Freeport, Me., on the Maine Central Railroad, both parallel rods of a locomotive broke at once, and the ends revolving thrashed through the sides of the cab.

On the evening of the 19th, an express train on the Lake Shore & Michigan Southern Railway ran into the rear of a freight train of the Chicago, Rock Island & Pacific Railroad at the junction of the two roads about eight miles south of the Chicago depot, quite demolishing the caboose and wrecking other cars, and killing a man in the caboose. It is reported that the express was on time and had the right to the road, and that no signal indicated the proximity of the freight.

On the morning of the 20th, at Gray's Ferry, Pa., on the Philadelphia, Wilmington & Baltimore Railroad, an engine ran into a coal-oil train with such force as to burst one of the oil-tanks and damage the engine badly. Then the oil caught fire, and the tender was nearly ruined and the engine badly damaged further.

About 7 o'clock on the morning of the 20th, as a train on the Newark & New York Railroad was passing Brill's Switch, the front truck of the forward passenger car left the track, and the end of the car struck a freight car on the side track and was badly damaged. The train was running slowly at the time and no one was hurt. The accident was said to have been caused by a broken switch-rod.

On the 20th, just east of the Kaw River Bridge, near Kansas City, there was a collision between a yard engine of the Missouri Pacific and a Kansas Pacific engine, one backing and the other moving forward, doing very little damage. The blame is laid on one of the enginemen, for not looking out for signals.

On the evening of the 20th, near Pulaski, N. Y., on the Oswego & Rome Railroad, one truck of a car on a north-bound train jumped the track.

On the night of the 20th, about 10 miles east of Decatur, Ill., on the Toledo, Wabash & Western Railway, a freight train broke in two while on a down grade, and when the forward part was stopped the rear cars ran into it with such force as to throw the engine and six cars from the track, severely injuring a brakeman.

On the night of the 20th, at Comanche, Iowa, twelve cars of a freight train were thrown from the track by a broken rail on the Chicago & Northwestern Railway.

At three o'clock in the morning of the 21st, near Bismarck, Mo., on the St. Louis & Iron Mountain Railroad, a train which had been standing on the track moved forward to keep out of the way of an approaching train, and in so doing ran into a third train, which had not been observed. A brakeman was killed and a conductor injured.

On the morning of the 21st, near Wolcott, Mo., on the Southwestern Division of the Chicago, Rock Island & Pacific Railroad, there was a collision which blocked the road nearly 24 hours.

On the morning of the 21st, as a south-bound freight train on the Philadelphia, Wilmington & Baltimore Railroad was crossing the bridge over Bush River, one of the cars jumped the track, and thus the train was brought to a stand on the bridge for four hours.

On the 21st, the wind blew an empty freight car from a siding to the main track on the Southwestern Division of the Chicago, Rock Island & Pacific Railroad, and the next train went through it.

On the 21st, the baggage car of an express train on the Missouri Pacific Railroad struck a coal car which had been left on a siding too near the main track and crushed it.

On the afternoon of the 21st, a mixed train on the Chicago & Northwestern Railway went into the ditch near Low Moor, Iowa.

On the evening of the 21st, three cars of a south-bound freight train on the St. Paul & Sioux City Railroad ran into the ditch near Spring Lake, Minn.

On the morning of the 22d, there was a collision on the Missouri Pacific Railroad between a west-bound express and an east-bound accommodation, by which the engines were slightly damaged.

On the morning of the 22d, a train on the Monticello & Port Jervis Railroad ran off the track near Monticello, New York.

On the evening of the 22d, a little north of the State Line, on the Harlem Extension Railroad, the road being being blocked by snow, a train backing down left the rails and was delayed some hours.

On the evening of the 22d, on the Harlem Extension Railroad, the smoking car and coach of a north-bound mail train jumped the track at Stephentown, and were left behind.

On the morning of the 22d, near Blackstocks, S. C., on the Charlotte, Columbia & Augusta Railroad, the engine and five cars of a freight train were thrown from the track and badly broken by a broken rail.

On the night of the 22d, on the Rutland Branch of the Rensselaer & Saratoga Railroad, the road being blocked by snow at the time, a rail broke under a north-bound accommodation train drawn by two locomotives, about a mile and a half below Whitehall, N. Y., and the tender of the rear engine, two baggage cars, the smoking car and express car went off the track and down a bank twelve or fifteen feet high.

On the 23d, a little after midnight, a north-bound freight train on the Chicago, Danville & Vincennes road, became short of water about five miles below Muncie, Ill., and the engine was detached and ran on to Muncie for water, where the tanks were frozen and the supply had to be taken in slowly by buckets. While the cars were standing, with no signal out, about 5 o'clock in the morning, a north-bound passenger train ran into them, killing the freight conductor and injuring a brakeman, both of whom were asleep in the caboose, and also injuring the engineman of the passenger engine. The caboose and one coal car were burned. The weather was intensely cold, and it was several hours before the express was due when the engine started, which was probably the excuse of the trainmen for not keeping out a signal, though it is also reported that no notice was given by the engineman when he cut loose.

On the morning of the 23d, at Easton Siding, on the Baltimore & Ohio Railroad, a fast freight train ran into the rear of a stock train with great force, throwing the tender of the fast freight from the track, and destroying two cars of merchandise and killing the fireman. It is reported that both trains were ahead of time, that the stock train was waiting to go back to time, but had put out no signals, though it was quite dark and that, finally, all the trainmen of both trains were immediately discharged for disobeying orders.

Early on the morning of the 24th, near Towanda, Ill., on the Chicago & Alton Railroad, an entire train was thrown from the track by a broken rail, the engine was turned completely around, the cars—one baggage, two coaches and one sleeper—passed it and lodged in the ditch, right side up, being held firm by the Blackstone platform. A brakeman was killed in jumping, and the engineman and fireman were badly bruised.

On the 24th, in a blinding storm, as an east-bound freight

train on the Lake Shore & Michigan Southern Railway was crossing the trestle at Smoke's Creek, near Hamburg, N. Y., the nineteenth car from the engine jumped the track and was followed by the rest of the train—18 loaded freight cars and the caboose. None of the cars went over, and a signal was sent back to stop a following freight train, but it was not seen, through the snow storm, until too late, and the train ran into the wreck, crushing and setting fire to the caboose and the freight cars, which were burned. The wreck blocked both tracks for some hours.

On the 24th, at Otego, N. Y., on the Albany & Susquehanna Railroad, a passenger train was thrown from the track by a broken rail, and the conductor, baggage master and express messenger were injured.

On the afternoon of the 24th, a few miles north of Jackson, Mich., on the Jackson, Lansing & Saginaw Division of the Michigan Central Railroad, a broken rail on a bridge threw two coaches full of passengers down 15 or 20 feet upon the ice, bottoms up, wounding one passenger fatally, and nine others more or less severely. The cars caught fire from the stoves, but it was soon put out.

On the night of the 24th, a freight train of the Hannibal & St. Joseph Railroad, while leaving the yards at Quincy, Ill., was turned by a misplaced switch from the track leading to the bridge to that of the Burlington & Carthage Branch of the Chicago, Burlington & Quincy Railroad. A rail had been taken up for repair on this track, and before the train could be stopped the engine and several cars ran off and the track was blocked for nine hours.

About 8 o'clock on the morning of the 25th, as a west-bound freight train on the Morris & Essex Division of the Delaware, Lackawanna & Western Railroad was passing the station at Summit, N. J., the locomotive left the track at a frog and ran into a train of empty passenger cars which was standing on a side track, wrecking several cars.

About 5 1/2 o'clock in the morning on the 26th, near Augusta, Mo., on the Missouri Pacific Railroad, there was a collision between a freight train and an accommodation, caused, it is said, by the freight's running on the other train's time, and doing little damage other than several hours' delay.

About 9 o'clock on the morning of the 26th, a shifting engine on the Erie Railway ran off the track while passing from the main to a side track, at the west end of Bergen Tunnel. Trains were delayed about an hour, but little damage was done.

On the morning of the 26th, near West Penn. Junction, Pa., on the Allegheny Valley Railroad, a freight-train was thrown from the track, and several of the cars rolled over. The conductor was seriously hurt. A broken rail is reported to have caused the accident.

On the morning of the 26th, in a blinding snow-storm, on the track of the Illinois Central Railroad, in Dubuque, an incoming passenger-train, of the Chicago, Clinton & Dubuque Railroad, and an outgoing passenger-train, of the Illinois Central, met in collision, while running slowly, and both engines, and baggage and express cars of the Illinois Central train were badly damaged, and two men in the express car were injured. The Illinois Central train was 40 minutes late, but is said to have had the right to the road.

On the 26th, after noon, six cars of a freight train on the Oil Creek Railroad were thrown from the track below Petroleum Centre, Pa., by a broken rail.

On the afternoon of the 26th, between Carthage and Great Bend, N. Y., on the Utica & Black River Railroad, a freight train ran off the track, but was got on again, and proceeded, leaving the track in so bad condition that

On the night of the same day, a following express train and its baggage, mail and passenger cars were thrown off at the same place, and one car was disabled.

Between one and two o'clock on the morning of the 27th, as a passenger train on the Northern Central Railway was slowly passing Conewago siding, the engine and two cars were thrown from the track by a switch which a freight train had left open.

On the morning of the 28th, at De Kalb, Ill., on the Chicago & Northwestern Railway, thirteen cars of a freight train went over a bridge into a creek.

Early in the month, a train ran off the track of the Oregon & California Railroad near Redding, Oregon, killing the engineman.

About the middle of the month a construction train on the Houston & Texas Central Railroad jumped the track above McKinney, Texas, killing one man and wounding some others.

About the middle of the month, as a night express was running at great speed down the Boston & Maine Railroad, one of the parallel rods broke, crushed one side of the cab, and threw the train from the track.

In the latter part of the month, at New Lisbon, N. J., on the New Jersey Southern Railroad, a freight train ran into some passenger cars of the Kinkora Branch, dangerously injuring a brakeman.

This is a total of 133 accidents, 19 of which caused death, and 24 others injury to persons. The number killed was 25, and the number injured 128. They may be classified as to their nature and causes as follows:

DERAILMENTS.	
Unexplained.....	34
Broken rail.....	25
Broken wheel.....	6
Misplaced switch.....	6
Broken joint or rail-fastening.....	2
Broken coupling.....	2
Cattle on track.....	2
Man on track.....	1
Broke : frog.....	1
Broken trestle.....	1
Broken brake.....	1
Broken truck.....	1
Broken draft iron on tender.....	1
Broken coupling.....	1
Broken switch rod.....	1
Broken parallel rod.....	1
Bad track.....	1
Malignant obstruction.....	1
Wash-out.....	1
Snow-slide.....	1
Ice on track.....	1
<b>COLLISIONS.</b> .....	<b>1-87</b>
Rear collisions.....	13
Head collisions.....	9
Unexplained.....	13-35
Boiler explosions.....	3
Broken connecting or parallel rods.....	3
Broken driving-wheel tire.....	1
Broken driving axle.....	1
Steam-chest explosion.....	1
Unknown.....	1
<b>Total.....</b>	<b>9</b>

Distributed as to time, we see that there was one accident on the 2d, the 16th, the 27th and 28th days of the month; two each on the 5th, 9th, 23d and 25th; three each on the 3d, 6th, 7th and 18th; four each on the 1st and 15th; five each on the 10th, 13th and 21st; six each on the 8th, 17th, 19th, 20th and 22d; seven each on the 4th and 21st; eight each on the 11th and 26th, nine on the 12th, and not less than eleven on the 14th; besides five on days not known. On the four Sundays of the month there were six accidents.

Looking to the reported causes of the accidents, we see that 32 were caused by defects or failures of permanent way, 25 by broken rails, and 21 by defects or failures in rolling stock.



For the twelve months ending with February our record stands as follows:

	No. of Accidents.	Killed.	Injured.
March.....	27	3	67
April.....	22	13	32
May.....	27	9	33
June.....	44	63	114
July.....	31	35	66
August.....	63	15	49
September.....	71	24	104
October.....	90	29	102
November.....	103	37	114
December.....	112	42	133
January.....	178	40	199
February.....	133	25	126
Totals.....	901	335	1,139

We must repeat again that our record is not complete, especially as regards the accidents causing no serious injury to persons. Probably most of the slighter derailments, causing no long delay to trains, are never reported at all in the newspapers, and it is from the newspapers that most of our information comes. Probably not many of those accidents which cause death or very serious injury escape the notice of the local newspapers, and few are contained in the newspapers escape us. And doubtless the lighter accidents are much more fully reported for some roads than for others, owing to the differing habits of the local press, so that the frequent mention of the name of any given road in this record by no means proves that it is exceptional in the number of its accidents.

### Report of the Pennsylvania Railroad Company for 1872.

OFFICE OF THE PENNSYLVANIA RAILROAD COMPANY,  
PHILADELPHIA, March 10, 1873.

To the Stockholders of the Pennsylvania Railroad Company:  
Your directors have much pleasure in submitting to you the following very satisfactory statements of the business of your railways and canals for the past year.

The earnings of your railway and branches between Philadelphia and Pittsburgh were:

From passengers.....	\$4,422,013 80
From emigrant passengers.....	240,005 08
From mails.....	154,914 78
From express matter.....	449,637 35
From general freight.....	16,854,891 41
From miscellaneous sources.....	289,073 15
<b>Total.....</b>	<b>\$22,012,525 27</b>

<b>EXPENSES.</b>	
For conducting transportation.....	\$4,961,932 75
For motive power.....	3,836,946 40
For maintenance of cars.....	1,303,899 83
For maintenance of road.....	3,317,744 69
For general expenses.....	329,169 42
<b>Total.....</b>	<b>\$13,764,673 09</b>

Leaving net earnings in 1872.....\$8,247,852 18

The total earnings of these works in 1871 were.....\$18,719,836 85  
And for 1872.....\$22,012,525 27

Showing an increase in 1872 of.....\$3,292,688 42  
Of the above earnings, there was received from the 358 miles of main line:

In 1872.....	\$20,010,818 80
In 1871.....	17,338,824 28

Increase from the main line.....\$2,671,994 52

And from the branch lines:	
In 1872—436 miles in length.....	\$2,001,706 47
In 1871—375 miles in length.....	1,381,012 57

Increase.....\$620,693 90

The earnings of the branch lines operated by your company in 1872, as already stated, were.....\$2,001,706 47  
The expenses of operating them, including rents of leased branches, were.....1,994,121 84

Showing a net direct profit in operating these lines of.....\$7,584 63  
The sources of revenue in 1872, compared with those of 1871, show an increase in every item as follows:

First-class passengers.....	\$302,748 44
Emigrant passengers.....	83,612 96
General freight.....	2,804,686 90
Mails.....	7,081 66
Express matter.....	87,217 45
Miscellaneous.....	7,441 01
<b>Total.....</b>	<b>\$3,292,688 42</b>

The whole number of passengers carried in 1871 was 4,699,935, and in 1872, 5,250,393, an increase of 550,458, or nearly 11.71 per cent.

The average distance traveled by each passenger was 33.11 miles, being 59-100 more than in 1871.

The number of tons of freight moved (including 614,757 tons of fuel and other materials for the company's use) was 8,459,535 tons, embracing 3,669,071 tons of coal. It was last year 7,100,294 tons, showing an increase of 1,359,241 tons, or over 19.3 per cent.

The average charges per net ton per mile upon freights during the year was 1.4163 cents, against 1.3887 cents last year, and per passenger 2.45 cents per mile against 2.53 last year, or an average increase in the rate of freight charges in 1872 above those of 1871 of 0.0276, or a little over a quarter of a mill per ton per mile; and in passenger charges a decrease of 8-10 of a mill per passenger per mile.

The average cost of moving freight was 0.886 cents per ton per mile, and for passengers 1.837 cents per passenger per mile.

The actual cost of operating your railway, including branch lines, in 1872 was 62.53 per cent. of its receipts; excluding branch lines it was 58.92 per cent.

For more detailed statements of the receipts and expenses of the main line the shareholders are referred to the full and satisfactory reports of the General Manager and Controller.

The earnings of the Philadelphia & Erie railroad in 1872 were:

From passengers.....	\$647,274 09
From freights.....	3,177,548 92
From express matter.....	44,917 87
From mails.....	27,573 30
From miscellaneous sources.....	81,438 79

Total (nearly \$13,823 per mile of road).....\$3,980,752 87

The operating expenses during the same period were:

For conducting transportation.....	\$341,398 21
For motive power.....	915,735 45
For maintenance of cars.....	3,801 18
For maintenance of way.....	1,194,943 07
<b>Total.....</b>	<b>\$3,255,878 31</b>

Showing a balance to credit of Philadelphia & Erie Railroad of.....\$624,736 96

The number of tons of freight moved upon this line during the year was 3,028,568 tons, against 1,923,491 in 1871, 1,614,297

in 1870, and 1,302,041 in 1869, showing a steady annual increase of traffic.

The average charge made per mile on freights was 1.190 cents per ton per mile, and the actual cost of its movement 0.941 of a cent per ton per mile, leaving a margin of profit of only one quarter of a cent per ton per mile.

The increased tonnage in 1872 over 1871 was 200,077 tons, and the increase in revenue from freights was \$377,199.61, and from passengers, \$61,298.83. The total increase of revenues for the year being \$438,498.44; but the expenses, chiefly owing to the destruction of the Linden Bridge by fire and the unusually large amount of iron required to keep the track in good condition, has more than absorbed this increase.

The net earnings of the Philadelphia & Erie Railroad have disappointed the expectations of its friends and projectors; not in the extent of its tonnage since the modification of the lease, but in the rates of freight that it has been able to command for what it carried. This line being longer from the commercial centres of the East to all important points of the West than its competitors, and traversing a sparsely populated country, with gradients unfavorable for cheap transportation, the cost of conducting its passenger business has usually exceeded the income from this branch of revenue. This year it shows a loss of \$37,933.73.

[An account is here given of the circumstances which caused a modification of the terms of the lease of the Philadelphia & Erie, and of its failure, so far, to be profitable, which are reported to be an unwise location, avoiding the coal and oil deposits which might have given it its largest traffic, and its excessive cost.]

The earnings of the United Railroads of New Jersey and the Philadelphia & Trenton Railroad, excluding those of the Belvidere Delaware Railroad and Flemington Branch, were, in 1872:	
From passengers.....	\$4,573,312 52
From freights.....	3,263,291 86
From express matter.....	236,554 95
From mails.....	48,485 00
From miscellaneous sources.....	141,580 47
<b>Total.....</b>	<b>\$8,262,235 80</b>

<b>EXPENSES.</b>	
For conducting transportation.....	\$3,755,600 75
For motive power.....	1,595,096 62
For maintenance of cars.....	379,637 17
For maintenance of road.....	1,234,007 03
For general expenses.....	50,735 21—6,005,166 78

Leaving net earnings in 1872.....\$2,257,069 02

The earnings of the Belvidere Delaware Railroad, 68 miles in length, and Flemington branch of 12 miles, were in 1872:

From passengers.....	\$154,479 83
From mails.....	4,319 26
From express matter.....	3,737 31
From general freight.....	499,439 33
From miscellaneous sources.....	2,357 45
<b>Total.....</b>	<b>\$664,393 18</b>

<b>EXPENSES.</b>	
For conducting transportation.....	\$125,906 60
For motive power.....	146,434 90
For maintenance of cars.....	44,840 09
For maintenance of road.....	198,349 89
<b>Total.....</b>	<b>\$515,531 48</b>

Showing a balance to credit of Belvidere Railroad for 1872 of.....\$148,861 70

The earnings of the Delaware & Raritan Canal in 1872 were:

From tolls.....	\$338,832 06
From steam towing.....	567,093 99
From miscellaneous.....	18,719 19
<b>Total.....</b>	<b>\$1,524,635 24</b>

<b>EXPENSES.</b>	
For maintenance of canal.....	\$278,930 52
For canal operation, including drawbacks of.....	293,338 27
For steam towing account.....	443,718 70
<b>Total.....</b>	<b>\$1,016,037 49</b>

Leaving net earnings in 1872.....\$508,597 75

After deducting drawbacks allowed to shippers in 1872, and also in 1871, the actual revenues from the Delaware & Raritan Canal were, in 1872.....\$1,415,156 44  
And they were in 1871.....1,380,736 84

Showing an increase of.....\$134,419 60

The earnings of the Philadelphia & Trenton and the United Railroads of New Jersey, Belvidere Delaware Railroad and Flemington Branch, and the Delaware & Raritan Canal, in 1872, were:

From United Railroads of New Jersey, etc.....	\$9,266,236 80
From Belvidere Delaware Railroad and Flemington Branch.....	664,393 18
From Delaware & Raritan Canal.....	1,524,635 24
<b>Total.....</b>	<b>\$10,455,265 22</b>

<b>EXPENSES.</b>	
For United Railroads of New Jersey.....	\$6,005,166 78
For Belvidere Delaware Railroad and Flemington Branch, including net earnings (at \$148,861.70).....	664,393 18
For canal.....	1,016,037 49
<b>Total.....</b>	<b>7,685,597 45</b>

Total net earnings of railroad and canal in 1872.....\$2,769,667 77

The gross receipts from these works in 1871 were.....\$8,999,157 06  
And those for 1872.....9,963,461 96

An increase of.....\$1,064,304 90

The amount required to pay interest on bonds and dividends to the shareholders of the United New Jersey Railroads and Canal, under the lease, is.....\$3,292,987 84

To which add the interest at 7 per cent. upon the average estimated amount of additional capital employed in conducting the business of the road, \$1,740,890.93, six months.....60,931 14  
Add interest on loss in operating road in 1871, \$980,238.23, one year, 7 per cent.....65,116 67

Total.....\$3,419,035 15

From this deduct the amount contributed to the sinking fund from the earnings of the railways in 1872.....\$119,920 00  
And the amount of debt of the United Companies paid off by the Pennsylvania Railroad Company in 1872.....140,568 12

Amount received from investments.....171,629 92

Balance.....\$2,968,917 11

From which deduct net earnings of railways and canals.....2,769,667 77

Leaving the deficit in 1872.....\$234,289 34

Add deficit that had accrued up to January 1, 1872.....930,238 23

The total deficit up to January 1, 1873, was.....\$1,154,527 57

In considering this statement it will be recollected that no charge has been made against the business of the New Jersey Railroads for the use of the cars of the Pennsylvania Railroad Company engaged in the through traffic over those railroads, or for any part of the general expense account incurred for the management of the whole of the works of your company, which

should be distributed in due proportion among its own and leased lines.

On the completion of the extensive improvements commenced at and near Jersey City, and the construction of the additional tracks contemplated along the line, it is believed that the cost of moving and handling freights and passengers will be so materially reduced that we shall be able not only to meet the terms of the lease from the profits of the works, but to gradually extinguish the large deficit that has accumulated. Without the additional facilities already provided, the increase of the business of the past year could not have been disposed of at all, and the proper working of the line is still greatly embarrassed for want of the additional facilities which are now being provided.

As large, however, as this deficit now amounts to—if it is never returned from the profits of these works—its creation was fully justified by the absolute necessity there existed for the accommodation of the rapidly increasing traffic of our line from the West, destined to New York and the East, the small profits upon the transportation of which were not considered by the lessors of these railroads and canals of sufficient importance to induce them to incur the heavy terminal expenditures required for its prompt and economical delivery.

The number of passengers carried over the United Railroads of New Jersey in 1872 was 7,580,795, and the average distance traveled by each passenger was 21.39 miles.

The number of tons of freight moved was 2,536,304 tons, including 55,732 tons of bituminous coal for shipment at South Amboy and 78,027 tons of material transported for the company's use.

The average charge per net ton per mile upon freights during the year was 2.55 cents, and per passenger 2.52 cents per mile.

The actual cost of operating the Philadelphia & Trenton and the United Railroads of New Jersey in 1872 was 72.61 per cent. of its receipts, which high rate is mostly due to the want of facilities at the terminal of the road for handling economically the large traffic of the line.

The number of tons of freight moved on the Belvidere Delaware Railroad and Flemington Branch was 914,833 tons, of which 842,749 tons was anthracite coal.

The average charge per net ton per mile upon the freights carried over these lines in 1872 was 1.11 cents, and the cost of moving it was but 0.819 cents per ton per mile, reflecting much credit upon the General Superintendent, F. W. Jackson, Esq., and the Superintendent in immediate charge, Mr. John A. Anderson, for the efficient and economical management of the line.

As the accounts of the business of these railways have not heretofore been entered in the form and detail with which those of the Pennsylvania Railroad Company have been kept, we have no reliable data for comparing the results of the business of 1872 with those of previous years.

The lease of the New Jersey improvements between Philadelphia and New York includes also the Delaware & Raritan Canal—the water line between those cities. This work is under the charge of General L. J. Wister as General Superintendent, in place of John G. Stevens, Esq., elected General President of the several companies in New Jersey whose lines you have leased. This canal, though its coal tonnage fell off materially in 1872, has yielded, however, an increase in its net profits over the previous year of over \$134,000.

With the lease of the New Jersey railroads and canals, this company also received property represented in shares in and bonds of branch railroads, street railroads, turnpikes, bridges and ferries over the Delaware and Hudson rivers, amounting at par to \$5,714,444.25, valued at the time of their delivery at \$4,065,225.25, and believed to be now worth about that sum. These securities yielded in 1872 a net revenue of \$171,629.92, but they cannot be sold without injury to the general interest of the company. This leaves the means necessary to make the improvements so urgently demanded for the accommodation of the large and increasing business of these railways at Philadelphia, Jersey City, and along the line, to be obtained from other sources. These improvements, consisting of additional tracks for passing trains, sidings at the termini, shops, engine houses, passenger stations, warehouses, wharves and stock yards, the construction of which could no longer be delayed, have been commenced and will be prosecuted with vigor. Their completion will require a heavy outlay which, it had been incurred some years since, would at this time have added materially to the revenues of the company, and to a greater extent have diminished the expenses of managing its business.

The live stock traffic of the Pennsylvania Railroad Company destined to Jersey City, New York and points in the East, or want of facilities for its accommodation at Jersey City, has for many years been forced to leave the Pennsylvania Railroad at Harrisburg, 106 miles west of Philadelphia, and reach New York over the East Pennsylvania and New Jersey Central railroads, thus losing the profit of its transportation for about 200 miles out of 450 miles between Pittsburgh and New York.

The New Jersey Central Railroad Company, in consequence, it is supposed of the crowded condition of its line, has recently demanded specific rates for the transportation of live stock over its railway, instead of its share of the rates obtainable in competition with other routes as heretofore. To meet this movement and restore this traffic to its natural channel, this company is under the necessity of at once incurring a heavy expenditure which ought to have been made some years since by the New Jersey companies.

The estimated expenditure for all these works during 1872, 1873 and 1874, including the rebuilding of the Trenton and New Brunswick bridges with iron, has been estimated at \$5,250,000. To meet this sum, the Joint Railroad Company of New Jersey have delivered to us, of their general mortgage bonds, \$3,000,000, the interest upon which will have to be added to the annual payments to be made under the lease.

The revenues of all the lines operated by your company in 1872, between Pittsburgh and Jersey City, and the amounts paid for their working expenses, interest on debts and dividends to shareholders, are as follows:

<b>RECEIPTS.</b>	
From the Pennsylvania Railroad and branches.....	\$22,012,525 27
From the Philadelphia & Erie Railroad.....	3,980,752 87
From the United Railroads of New Jersey.....	8,266,236 80
From the Belvidere Delaware Railroad, including the Flemington Branch.....	664,393 18
From the Delaware & Raritan Canal.....	1,524,635 24
From the dividend on stock in the Pennsylvania Company from April 1 to October 1, 1872.....	240,000 00
<b>Total.....</b>	<b>\$36,088,503 36</b>

<b>EXPENSES.</b>	
Of the Pennsylvania Railroad and branches.....	\$13,764,673 09
Of the Philadelphia & Erie Railroad, including net earnings.....	3,980,752 87
Of the United Railroads of New Jersey.....	6,005,166 78
Of the Belvidere Delaware Railroad and Flemington Branch including net earnings.....	664,393 18
Of the Delaware & Raritan Canal.....	1,016,037 49
<b>Total.....</b>	<b>25,431,023 41</b>

Net profits for the year upon all the lines operated by the company.....\$11,257,479 95

From which deduct dividends declared in May and November (each 5 per cent.) with the taxes paid thereon.....\$4,711,497 00

Interest paid by the company after deducting interest and dividend received.....424,145 95  
Paid for the lease of the Harrisburg & Lan-



Eastern Railroad.....	135,056 34
Annual payment to the State of Pennsylvania on account of interest and principal due upon the purchase of the works between Pittsburgh and Philadelphia.....	460,000 00
Dividends and interest paid on a count of the United Railroads and Canals of New Jersey in 1872 (\$3,332,967.34), after deducting interest received from investments transferred with the lease (\$171,629.92), showing an outlay in operating them under the lease in excess of their net receipts of \$224,339.34.....	3,121,357 42
	8,862,056 71
Balance.....	\$3,395,425 24

This balance represents the net results of the operations of your several lines of railway in Pennsylvania and New Jersey for the year 1872, and they are thus stated that you may fully understand the value of your property, nothing having been entered to the expense account except the regular transportation charges against the business of the company. In former years the expense account was increased annually by considerable payments that might have been charged to construction account, which, had they been divided as profits, would to that extent have increased the present indebtedness of the company.

The Pennsylvania Railroad Company has also a large amount of property that is at present practically unproductive, such as a controlling interest in 22,194 acres of anthracite coal lands, stock in the Pennsylvania Canal, and in railroads, the profits of which in a short time will add largely to its net revenues, but which at present are small, and have been devoted to their improvement.

It will be seen from the preceding statement that the surplus net profits of the company in 1872, without including those from the sources alluded to, were sufficient to have paid a dividend at 10 per cent. upon an additional capital stock of nearly \$24,000,000, and there is every reason to believe from the daily indications of the future business of the company, that without further outlays the profits of 1873 would be equally satisfactory. But as it is the duty as well as the interest of the company to meet the legitimate demands of the public for increased transportation facilities, the means necessary for that object must be provided. The amount required in 1873 for additional tracks, equipment, shops, wharves, depots, etc., to meet the demands from the increasing tonnage of the company and its existing obligations, is estimated at \$22,000,000.

The increase of the tonnage of 1871 over 1870 was 22½ per cent., and in 1872 over 1871 was 19.3 per cent. upon this increased amount. This rate could have been further increased by the possession of additional rolling stock and better terminal facilities.

The amount of rolling stock, etc., added in 1872, though deemed ample to meet the wants of the public, proved inadequate to that object. A further increase of equipment involves also large extensions of third track, sidings, warehouses and all other facilities that a railroad requires, the business of which is already crowding all of its departments. To raise the means desired to provide for this anticipated increase of traffic, your directors have concluded that inasmuch as the surplus profits of the year were largely in excess of the amount required to pay the usual dividend on its existing capital, the most acceptable mode of raising this sum would be by a distribution of an additional number of shares to the extent of 33½ per cent. of their present holdings, ratably among all of the stockholders whose names may stand upon the books of the company on the first day of April next, one-half to be paid in between the 1st and 24th of May, and the remainder (50 per cent.) to be called for on sixty days' notice, in installments not exceeding 25 per cent. at any one time.

The increase of the tonnage of the Pennsylvania Railroad was chiefly due to the local traffic of the line. This increase of traffic, not however in so great a ratio, will, it is believed, continue for some years to come.

To meet these annual requirements for additional funds, the directors have thought it best to adopt a revised financial plan, and with that view they have procured an act of the Legislature authorizing an increase of the capital stock of the company 100 per cent., with the privilege of raising by bonds, to be secured by mortgage, an equal amount. A certified copy of said act is submitted to you with this report for your action.

An application for an act to increase the capital of the company and its mortgage indebtedness in 1869 elicited such strong objections, in consequence of its apparent magnitude, from those who could not appreciate the extent and rapidity with which the traffic of the company would increase, that it was thought expedient to cut down the amount asked for to \$35,000,000, an amount which has already proved to be wholly inadequate to the requirements of the company. It has therefore been thought advisable to discontinue the sale of the present general mortgage bonds at the sum of \$20,000,000, and provide by an additional general mortgage an amount sufficient to meet the future necessities of the company. The basis for such a mortgage was increased last year by the issue, at par, of \$11,932,000 capital stock, which it is now proposed to further increase by an issue of additional capital, amounting to about \$18,000,000; making the basis for the issue of additional bonds under the proposed mortgage, \$71,000,000; the aggregate amount of the preceding mortgages and prior liens being but \$34,911,300.

In addition to the value of the railroad and branches, real estate and equipment and franchise as a basis of security, it will be recollected that among the personal property which will add still more to the security of such a general mortgage are the assets of the company, composed of the stock and bonds of other companies, and amounting at their present cash value to \$50,396,000.

[A long and very interesting account of the origin and working of the Union Railroad and Transportation Company, the owner of the fast freight line on this road, is given, which we will publish hereafter. It announces that the company has fulfilled its purpose, and that its business will soon be assumed by the "Pennsylvania Company," which is to take all the cars and other property of the Union Line and pay for it with \$3,000,000 of its common stock.]

The extent of the Western connections and the rapid increase of the local and through tonnage of the Pennsylvania Railroad has not only pressed upon your company the necessity of increasing the facilities of its own line by the laying of additional tracks, without which the traffic of the past year could not have been accommodated, but it has also pointed out the necessity of an additional line across the mountains that separate the waters of the Mississippi Valley from those of the Atlantic, to be built especially for freight, and designed for cheap transportation at slow rates of speed.

The route adopted for this purpose has been pointed out in previous reports, and the line is now being constructed, with the assistance of this company, by the Allegheny Valley Railroad Company, connecting that company's road, at the mouth of Red Bank Creek, with the Philadelphia & Erie Railroad, at a point 120 miles west of its eastern terminus at Sunbury.

This line has no gradients against the traffic exceeding a rise of three-tenths in a hundred, or less than 16 feet in a mile on straight lines—reduced proportionally upon curves. Its route abounds through its whole extent with cheap fuel, consisting of varieties of bituminous coal in unusually thick beds, embracing the best coking coals for iron smelting, blacksmith,

gas coals and canal coal—the latter being the most accessible, of that variety, to the Eastern markets.

This "Low Grade Line" is in rapid progress of construction, and will be opened for use this year or early next spring. When completed, and its connections made with the West, it will be possible for freights to be carried at much cheaper rates than they can be conveyed by any of the proposed canals between the Mississippi Valley and the East.

The branches of your railway have not, in the aggregate, yielded much, if any, direct profit to this company, but they have added materially to the prosperity of the State, and to the revenues of the main line. Where built by other companies, they have been leased to this company, to be operated by it at cost, that their proprietors might save the outlay that would otherwise be required for rolling stock and other equipment, etc.

[The Sunbury & Lewistown line is reported not to have earned its working expenses, leaving the interest on its bonds unprovided for. New roads to ore districts have been opened and promise excellent results. Needed improvements in facilities for distributing freights in Philadelphia have been made slowly. New elevators are needed there for the grain traffic. A connection between the road at a point a few miles east of Pittsburgh with the Pittsburgh, Cincinnati & St. Louis road, through the new Pittsburgh, Virginia & Charleston, is to be completed this year, if practicable. Improvements in Pittsburgh which will do away with grade crossings of streets will cost nearly a million. A delay in completing the Baltimore tunnel is mentioned, and the proposed lease of the Northern Central, in which company the Pennsylvania has a controlling interest.]

It has been stated, in previous reports, that your company had transferred to an organization known as the "Pennsylvania Company" all the leases had taken of railways west of Pittsburgh, including the Indianapolis & Vincennes, and Jeffersonville, Madison & Indianapolis railways; and the control, through a majority of its shares, of the Pittsburgh, Cincinnati & St. Louis Railway Company and its lease lines—the Pennsylvania Company to meet the conditions of these several leases, and to pay the losses sustained in working these lines, or either of them. The Cleveland, Mount Vernon & Delaware Railroad and the bridge over the Ohio River at Cincinnati being at the time in an unfinished condition, were not included in this transfer, in both of which works this company holds a majority of their shares. The Cleveland, Mount Vernon & Delaware Railroad will be finished this year, while the bridge over the Ohio has been in use for some months.

The capital of the "Pennsylvania Company" was issued at \$12,000,000, \$8,000,000 of which was to be issued to the Pennsylvania Railroad Company in preferred shares, which amount covers the cost of the property transferred, with interest to April 1, 1872. After that date dividends were to be paid semi-annually out of the net earnings. The first dividend of 6 per cent. per annum was paid on the 1st of October last, leaving a considerable surplus to the credit of income account. The preferred stock now held by this company will participate equally with the common stock in any dividends of income above six per cent. The rental and cost of operating all these lines, leading from Pittsburgh to the Southwest, including the Columbus, Chicago & Indiana Central Railway, have exceeded their income, while those leading to the lakes at Chicago (via Fort Wayne) at Cleveland and at Erie have yielded a profit more than sufficient, after deducting the losses upon the Southwest Lines, to justify the payment of the dividend mentioned.

When the cars of the Union Railroad & Transportation Company have been transferred to the "Pennsylvania Company," the authorized capital of the latter (\$12,000,000) will be filled up and the profits of the company more than proportionally increased.

[Mention is made, in conclusion, of the American Steamship Company's vessels, of the loss of two directors by death and one by resignation, and of the chief officers in the working of the roads under the recent reorganization.]

## TRAFFIC AND EARNINGS.

—The Rockford, Rock Island & St. Louis Railroad Company reports its earnings for the month of November, 1872, to have been \$93,678.82; working expenses, rentals and taxes, \$71,874.34; net earnings, \$21,804.48. For the 17 months ending with November the gross receipts were \$1,511,589.46, and the net receipts, \$355,980.93.

—The earnings of the St. Louis & Southeastern Railway (consolidated) for the first week in March were \$25,470.24. The earnings of the St. Louis Division for the same week were: 1873, \$15,688.44; 1872, \$10,567.51; increase, \$5,120.93, or 48½ per cent.

—The earnings of the Erie Railway for the first week in March were: 1873, \$339,137; 1872, \$336,960; increase, \$2,177, or 0½ per cent.

—The earnings of the Toledo, Wabash & Western Railway for the first week in March were: 1873, \$114,921; 1872, \$107,657; increase, \$7,264, or 6½ per cent.

—The earnings of the Kansas Pacific Railway for the first week in March were: from passengers, \$24,061.13; freight, \$32,479.91; mails, \$2,055.31; total, \$58,596.40. Of this amount, \$2,190.56 was for the transportation of troops, mails and government freight.

The earnings of the Central Pacific Railroad for the month of February were: 1873, \$694,015; 1872, \$571,836; 1871, \$485,490; increase, 1873 over 1872, \$122,179, or 21½ per cent.; 1873 over 1871, \$208,525, or 43 per cent.

—The earnings of the Grand Trunk Railway for the week ending February 22 were: 1873, \$33,900; 1872, \$33,300; increase, \$600, or 1½ per cent.

—The earnings of the Great Western Railway of Canada for the week ending February 21 were: 1873, \$21,865; 1872, \$19,446; increase, \$2,419, or 12½ per cent.

—The following statement of the earnings of the Chicago & Northwestern Railway, from June 1 to March 7, nine months and one week, has been published:

Earnings.	1871-2.	1872-3.	Increase.
Passenger.....	\$2,493,676 71	\$2,669,726 34	\$176,049 63
Freight.....	6,879,103 79	6,554,273 56	324,830 23
Express.....	179,076 18	183,886 16	4,809 98
Mail.....	143,496 91	148,338 35	4,841 44
Miscellaneous.....	100,044 17	113,554 4	13,510 87
Total.....	\$3,769,397 86	\$3,669,738 35	\$99,659 51

The increase in passenger traffic was 5½ per cent., in freight 11½ per cent., and the total increase 10½ per cent.

—The earnings of the Chicago & Northwestern Railway for the first week in March were: 1873, \$206,619; 1872, \$186,785; increase, \$19,834, or 10½ per cent.

## General Railroad News.

### ELECTIONS AND APPOINTMENTS.

—At the annual meeting of the Mississippi Railroad Company at St. Albans, Vt., March 6, the old board of directors was re-elected, as follows: J. Gregory Smith, H. E. Royce, Silas P. Carpenter, Edward A. Smith, Daniel Moren, L. W. Martin, A. W. Woodworth, A. O. Brainerd and Bradley Barlow.

—The board of directors of the Chicago, Millington & Western Railroad Company has chosen the following officers: President, Louis Steward, of Plano; Vice-President, J. W. Eddy, of Millington; Treasurer, Julian S. Rumsey, of Chicago; Secretary, Geo. N. Jackson, of Chicago; Executive Committee, J. W. Eddy, Chairman; Stephen G. Paddock, of Princeton; Julian S. Rumsey; Finance Committee, Julian S. Rumsey, Chairman; James Barton, of Peru; Lewis Steward.

—The stockholders of the St. Louis County Railroad Company have elected Jonathan Jones, A. H. Schultz, R. Forayth, W. H. Gurnersell, J. O. Brodhead, W. D. Clayton and W. Marsh Kasson directors. The board of directors elected W. Marsh Kasson President, Amos H. Schultz, Vice-President, W. H. Maurice, Treasurer, and H. R. Driggs, Acting Secretary.

—Mr. Peter Soura, of Newark, is Engineer of the New Brunswick & Elizabeth Railroad.

—D. H. Moffatt, Jr., H. A. Gray, W. S. Cheeseman, L. H. Eicholtz and Henry Crow have been chosen trustees of the Denver Railway Construction Company.

—At a meeting of the stockholders of the State Line & Missouri River Railroad Company, at Osborn, Mo., March 4, the following board of directors was elected: J. D. Wright, E. S. Temple, J. H. Mallory, Charlton, Ia.; C. E. Perkins, Burlington, Ia.; S. Fitzgerald, Plattsmouth, Neb.; Gen. D. Rennie, Pawnee City, Neb.; Horace Fitch, Eagleville, Mo.; H. M. Cuddy, Bethany, Mo.; Joseph Smax, Osborn, Mo.

—W. T. Weldon has been appointed Secretary and Treasurer and J. B. Groome Counsel of the Elkton & Massey's Railroad Company.

—Col. H. D. Cook, of Normal, David A. Brown, of Sangamon County, and John M. Pierson, of Alton, have been appointed and confirmed Railroad and Warehouse Commissioners, in place of Gustavus A. Koerner, resigned, R. F. Morgan, Jr., and D. A. Hammond. Col. Cook was an officer of volunteers during the war, and for much of the time since has been the State's agent at Washington to settle its claims for payments on account of equipping troops, etc. He owns a farm in Woodford County. Mr. Brown has been President of the State Agricultural Society. Mr. Pierson is a manufacturer of agricultural implements. So far as appears, none of these men has any knowledge of railroad engineering, transportation, or law, and the Commissioners will have more to learn than their predecessors, one of whom was an excellent lawyer, and another a civil engineer who had had experience in working a railroad. But in the present temper of the people and the Legislature of the State it is doubtful whether the appointment of any one who was really familiar with railroad business would have been confirmed.

—Mr. George W. Railton has been appointed Superintendent of the Welland Division of the Great Western Railway of Canada.

—Mr. J. C. Sherman is manager of the telegraph department of the Great Western Railway, with headquarters at London, Ontario.

—Mr. James M. Foss, Superintendent of Motive Power of the Vermont Central road, will hereafter have charge also of the car department, made vacant by the resignation of Mr. Sessions, Master Car Builder. Mr. Foss will hereafter be known as Superintendent of Motive Power and Cars.

—Mr. N. L. Davis, Master Mechanic of the Rutland Railroad, will hereafter have charge of the car shops and cars also.

—At the annual meeting of the Paw Paw Railroad Company, at Paw Paw, Mich., March 4, the following officers were elected: President, Horace S. Ismon; Secretary, Henry Ismon; Treasurer, Horace S. Ismon; Superintendent, John Thling; Directors, H. S. Ismon, E. O. Briggs, G. W. Lawton, G. E. Ismon, W. D. Thompson, Henry Ismon, Edward Martin. The road extends from Lawton, on the Michigan Central, to Paw Paw, four miles.

—At the annual meeting of the Buffalo & Jamestown Railroad Company, at Buffalo, N. Y., March 12, the following board of directors was elected: Jewett M. Richmond, Abraham Altman, Sherman S. Jewett, James D. Sawyer, Wm. H. Newman, James Adams, Daniel O. Beard, Joseph Churchyard, Joseph N. Tift, Absalom Nelson, John Greiner, of Buffalo; Silas Vinton, of Cherry Creek; Augustus F. Ailen, of Jamestown. The board subsequently re-elected the old officers, as follows: President, Jewett M. Richmond; Vice President, James Adams; Treasurer, Abraham Altman; Secretary, Peter C. Doyle; Chief Engineer, Robert F. Ewing. The new members of the board are Messrs S. S. Jewett, Sawyer, Newman, Tift, Greiner, Vinton and Ailen.

—John W. Royer, formerly General Agent of the Philadelphia & Reading Railroad, at Harrisburg, Pa., has been appointed Superintendent of the Philadelphia & Reading Company's Express lines, with offices in Philadelphia.

—At the annual meeting of the St. Louis, Hannibal & Keokuk Railroad Company, at Hannibal, Mo., March 4, the following board of directors was elected for the ensuing year: W. W. Walker, John F. Ely, William Buchanan, George Douglas, of Iowa; S. R. Woodfolk, D. T. Waddy, Walton Perkins, of Lincoln County, Mo.; David L. Caldwell, Dr. T. J. Reynolds, of Pike County, Mo.; Nathan S. Dimmitt, J. D. Pitt, N. Elliott, J. W. Barrett, of Ralls County, Mo.

—The Buffalo Commercial Advertiser is informed that Mr. Rumsey, President of the Buffalo, New York & Philadelphia Railroad Company, desires to retire from the active management of the company and that the position of Managing Director has been offered to Mr. James Fillingham, Superintendent of the New York Central. Mr. Fillingham has not yet accepted or declined the position.

—Ex-Governor Richard M. Yates, of Illinois, has been appointed by the President a Government Director of the Union Pacific Railroad Company.

—Mr. Hamilton A. Hill, Secretary of the Boston Board of Trade, has been appointed Supervisor of the European land and emigrant agencies of the Burlington & Missouri River Railroad Company, with offices in London.

—Mr. James Allen, of Burlington, N. J., has been appointed State Director in the United New Jersey Railroad & Canal Company.

—The new board of directors of the New Orleans, Mobile & Texas Railroad Co. has elected the following officers: George Innis, President; Samuel S. Post, Jr., Vice President; John J. Howell, Secretary and Treasurer. There has been a complete change in the directory, only one of the old board (Oakes Ames) retaining his position. The names of the new board (given last week) are: Oakes Ames, George Innis, Charles J. Osborn, Samuel S. Post, Jr., S. Foster Dewey, John J. Howell and Erasmus Young.

—At the annual meeting of the board of directors of the Northern Pacific Railroad Company in New York, March 12, the



following board of directors was elected: William G. Fargo, Buffalo, N. Y.; George W. Cass, Pittsburgh, Pa.; Richard D. Rice, Augusta, Me.; Frederick Billings, Woodstock, Vt.; J. Gregory Smith, St. Albans, Vt.; William Windom, Winona, Minn.; B. P. Cheney, Boston, Mass.; William B. Ogden, James Stinson, Chicago, Ill.; Charles B. Wright, W. G. Moorhead, Philadelphia, Pa.; A. H. Barney, Albert A. Catlin, New York. Messrs. Barney and Catlin are new directors, taking the place of S. M. Felton, of Philadelphia, and T. H. Canfield, of Burlington, Vt.

The board of directors subsequently elected the following officers: Geo. W. Cass, President; C. B. Wright, Vice-President; R. D. Rice, Resident Vice-President on the Pacific coast; A. L. Pritchard, Treasurer, and Samuel Wilkeson, Secretary.

At a meeting of the Directors of the Keokuk & Kansas City Railroad Company, held at St. Louis, March 10, Hon. S. H. Melvin, of Springfield, Ill., was elected President of the Company, in place of James W. Lewis, resigned.

#### PERSONAL.

The employees of the car shop of the Vermont Central Railroad at St. Albans, Vt., recently presented Mr. Milton Sessions, who has just resigned his position as Master Car Builder to accept the general management of the Taunton Car Company, with a valuable clock and a handsome seal ring. Mr. Sessions' wife and daughter were also presented with rings.

Mr. O. Beardslee, late Superintendent of the Madison Division of the Chicago & Northwestern, has taken charge of the new hotel and eating-house at Elroy, Wis., the junction of the Chicago & Northwestern and West Wisconsin roads.

Mr. L. J. Fleming has resigned his position as Chief Engineer and General Superintendent of the Mobile & Ohio Railroad, a position he has held for a great many years.

#### CHICAGO RAILROAD NEWS.

##### Chicago & Pacific.

This company resumed last week the work of tracklaying, and will very soon have the road completed to Elgin.

##### Chicago & Northwestern.

This company is actively engaged in the work of building on the ground recently purchased just west of Central Park. It is now engaged in excavating for the foundation for the new round-house, and a large amount of material has already been deposited on the ground for building purposes. The company is going to push forward the work of building this season as fast as possible, and it is expected that the end of the summer will see the beginning of an important and populous suburb of the city.

##### Chicago, Danville & Vincennes.

This company has secured the ground bounded by Ann, Curtis and Carroll streets, upon which to erect a fine freight house of large dimensions. The plans of the building are being formed, and the work will be begun within a few weeks. A new elevator, which has been completed on the tracks of this road, whose capacity is 100,000 bushels, has already acquired a business equal to its full capacity.

##### Pittsburgh, Cincinnati & St. Louis.

This company has just completed the purchase of half a block of ground immediately and directly east of the land granted by the Chicago, Danville & Vincennes Company, on which the company will erect a large freight house this season.

#### ANNUAL REPORTS.

##### Fitchburg.

This road extends from Boston to Fitchburg, 50.68 miles, and the company operates the Watertown Branch, 6.60 miles; the Lancaster & Sterling Branch, 12.42 miles, and the Peterboro & Shirley Railroad, 23.62 miles, making a total of 93.32 miles of road operated.

The operations for the year ending September 30, 1872, were as follows:

Receipts from—	
Passengers.....	\$324,420 28
Freight.....	769,936 20
Express.....	8,313 78
Mails.....	9,391 65
Rents.....	15,978 01
Interest.....	261 43
<b>Total.....</b>	<b>\$1,350,289 35</b>

Expenditures for—	
Maintenance of way, including repairs of bridges, and buildings, new iron, etc.....	\$328,484 55
Repairs of locomotives.....	90,701 15
Repairs of cars.....	62,474 69
Fuel and stores.....	129,357 34
Wages.....	273,031 77
Removing ice and snow.....	2,232 57
Gratuities and damages.....	2,437 50
Taxes, insurance, etc.....	88,494 53
General salaries and office expenses.....	27,380 37
<b>Total.....</b>	<b>\$1,026,354 47</b>

Net earnings.....	\$323,934 88
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The gross earnings show an increase of \$22,918.19, or 14 per cent., over the previous year, and the net earnings an increase of \$7,196.94, or 24 per cent. The expenses were 76 per cent. of the gross earnings, and the latter were at the rate of \$14.472 per mile.

During the year passenger trains ran 374,719 miles; freight trains, 335,046 miles, and other trains, 6,481 miles, a total of 716,246 miles. The trains carried 1,869,427 passengers, equal to 24,311,123 carried one mile, and 740,123 tons of freight, equal to 19,678,511 tons carried one mile.

Reductions were made in the local freight and passenger tariffs in the latter part of 1871, but there has been an increase in receipts from local business of over \$31,000.

The insurance on the freight station and contents, destroyed by fire in October, 1871, is still in litigation. A new freight house 1,000 feet long has been constructed in Boston, and a street 50 feet wide and about 1,500 feet long opened and paved by the company, to give more direct access to this freight house. A considerable addition has also been made to the wharves.

##### Detroit & Milwaukee.

This road extends from Detroit, Mich., in a general north-westerly direction to Grand Haven, 189 miles.

The earnings of the road for the year 1872, excluding receipts from the steamboat line on Lake Michigan, were as follows:

From passengers.....	\$528,175 60
Freight.....	730,017 61
Mails and sundries.....	47,527 96
Rents.....	40,881 67
<b>Total.....</b>	<b>\$1,346,603 84</b>

Operating expenses, including taxes and insurance.....	\$939,447 78
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Net earnings.....	\$407,156 06
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As compared with 1871, the gross earnings show a decrease of \$107,191.44, or 74 per cent., and the net earnings a decrease of \$123,478.80, or 21 per cent. The expenses show an increase of

\$16,287.96, or 14 per cent. The decrease in earnings is attributed to the late opening of navigation on Lake Michigan, the smaller grain crop, the severe drought in the fall of 1871, which prevented the bringing forward of lumber and lastly to the opening of competing lines. The expenses were 68 per cent. of the gross earnings, and the earnings were at the rate of \$7,309 per mile. During the year passenger trains ran 319,912 and freight trains 319,129 miles, carrying 438,074 passengers, and 330,559 tons of freight. The decrease in passenger receipts was about 5 per cent., and there was an increase of 31 per cent. in through freights, the decrease in earnings being almost entirely in way freights.

The capital account has been increased by \$89,051.28, of which \$55,207.81 was for lands, bridges and permanent way and the remainder for shops, tools, station buildings, etc., including \$10,793.02 on account of new car shop at Detroit. During the present year another steamer is to be put on the line between Grand Haven and Milwaukee.

During the year 2,578 tons of new rails and 74,000 new ties have been put in the track. Contracts have been made for 5,000 tons of new rails to be delivered during the present year. The engineer recommends the renewal of the track with steel rails.

The equipment consists of 34 locomotives, 30 passenger, 20 baggage and way, 7 emigrant, 326 box and stock, 175 flat and one auxiliary car.

##### Rutland.

The annual report of this company relates mainly to its financial affairs, the road being leased and operated by the Vermont Central managers. The gross earnings of the road for the year ending October 31, 1872, were \$980,544.25, or at the rate of \$4,103 per mile. The annual rent, which is 43 per cent. of the gross earnings, amounted to \$424,740.

The receipts and disbursements for the year were as follows:

Rent of road.....	\$424,740 00
Rent of steamers.....	10,000 00
Real estate sold.....	10,000 00
First-mortgage bonds sold.....	701,000 00
Addition Railroad account.....	37,371 31

<b>Total receipts.....</b>	<b>\$1,183,111 31</b>
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Dividends, less scrip outstanding.....	\$191,674 00
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Notes paid.....	685,443 01
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Interest.....	235,921 00
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Salaries, etc.....	17,380 29
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Losses and damages settled.....	11,978 79—\$1,151,997 09
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<b>Balance.....</b>	<b>31,114 22</b>
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It is believed that the assets, when converted, will pay in full the outstanding bills payable, the \$32,300 old Rutland & Burlington bonds, the dividend scrip (including that issued for dividend due February 1, 1873), and every known liability of the corporation.

The report further says:

"The \$1,500,000 new first-mortgage bonds, issued under date of November 1, 1872, payable in thirty years, have been offered to stockholders and the public, and have resulted thus far in a sale of \$701,000 at par and accrued interest. This result may be considered favorable, under all the existing circumstances. For these bonds we have now subscriptions for an additional amount of \$300,000, leaving \$500,000 to be sold. The dividend scrip outstanding, including dividend number eleven, due 1st proximo, will absorb \$240,000, leaving only about \$260,000.

"If some action can be had which would result in selling the remaining bonds, the income under the lease can be applied to the payment of cash dividends on the preferred stock, which would doubtless be quite satisfactory.

"Dividends numbers nine and ten on the preferred stock have been paid in scrip. There is now on hand scrip due for dividends that have not been received, amounting to \$16,824.50. This sum is due 53 stockholders for dividend number nine, and 110 for number ten, the aggregate number of preferred stockholders being 893."

#### THE SCRAP HEAP.

##### Smith's Vacuum Brake.

A reporter of the Hartford Daily Times thus describes this invention, which is in use on the road between that city and New Haven:

"The apparatus is simply an air-ejector placed in the cab of the locomotive, which is connected by pipes and hose to a flexible air-chamber, similar in construction to an accordion; and this is connected to the brake-rod underneath each car. The engineer, by opening a steam valve, produces a vacuum in the ejector, causing the expulsion of air from the flexible air-chamber, bringing the heads of the air-chamber together, which movement contracts or shortens the brake-rod, and applies the brake. The moment the engineer opens the air-valve the pressure is instantaneously relieved. The pressure is applied externally and gradually, and is applied to the rear car first. This obviates the breaking of couplings and hose; and the jerking, unpleasant motion of the cars that accompanies the usual method of applying the brakes is done away with. Another advantage is, that when the vacuum is produced it draws the hose coupling and joints together; while other power brakes, operated by inward pressure, strain and open the couplings and joints."

##### Westinghouse Brake on Driving Wheels.

Commenting on an accident in which the locomotive broke loose from the cars after the brakes were put on, the Pittsburgh Commercial says:

"The great importance of applying the brakes to drivers, as well as to the cars, has been forcibly demonstrated in the Milford accident. In a train of several cars, each car has its proportion of the weight of the locomotive to overcome. This weight is (independent of the tender, which has its own brake,) about thirty-five tons, making a weight of about six tons to be overcome by each car, besides its own weight. This strain is not equally exerted between each car, but is, of course, the full amount between the locomotive and tender, and six tons less to the coupling of the next car, and so on.

"If there was a sudden jerk, it could not have been given by the brake, or by reversing the engine. In either of these cases the train would be closed instead of stretched apart.

"There are instances on record of cases where the reverse lever of the locomotive has slipped forward, of its own motion, after having been reversed, and would make a tremendous jerk, sufficient to break any coupling. The fact of this immense strain being applied to the couplings would at first seem to have caused them to break, but it is well known that the strength of the couplings is sufficient to stand several times the amount of strain that would result from the application of the brakes.

"If the engine had been reversed, the strain would have been almost nothing upon the various couplings, as the locomotive would have taken care of fully one-half of its own weight. If the air brakes were applied to the driving-wheels of the locomotives, as well as to the other wheels in a train, there would be no strain upon any of the couplings, while the efficiency of the brake would be increased to a great extent.

"The Pennsylvania Railroad has applied the air brake to the drivers of several of their shifting engines, and it is found to be at least twice as efficient in stopping trains as engines are when reversed.

"It seems common sense would suggest that efficient brakes

should be put on the locomotive, and thus prevent all strains on car couplings, as well as provide against the locomotive breaking loose and running into the train ahead.

"In the Milford case, after the couplings were broken, the engine would lose part of the help of the cars, and so would apparently shoot forward and run into the train ahead; but in reality the train, after being relieved of the weight of the engine, would stop sooner than it otherwise would have done."

##### Sunday Trains.

A member of the Michigan Legislature having asked if it would not be possible to suspend labor of every kind on railroads on Sundays, Mr. James F. Joy replied, "that it could not be done. On the roads that run north and south there was no competition and they might cease work. Formerly they did not use to run Sunday trains on the Michigan Central. But there are numbers of persons in Chicago and every large city who desire to start Saturday night for New York and they will do so if there is a way to get there. The Pennsylvania Central first put on Sunday trains and the consequence was they took away every passenger, and the cars that left Monday morning were empty. When the Pennsylvania Central put on those trains we earnestly remonstrated, but they paid no heed to it, and swept our business. Then the Michigan Central and the Michigan Southern were compelled to run trains in like manner. It was the community that insisted on it. Take a person, for instance, who left San Francisco for the East on Wednesday; you could no more hold him still in the middle of the plains on Sunday than you could the steamship in the middle of the Atlantic that left New York a day or two before Sunday.

##### Premiums for Good Track on the Philadelphia & Erie.

The Union (Pa.) Times says: "The managers of the Philadelphia & Erie railroad last fall offered as a prize the sum of \$75 to the foreman who could show the greatest improvement in the condition of the track during the following six weeks. Not only the line and surface was to be considered, but also the cleaning of the ditches, the condition of the road crossings, switches and the appearance of the road generally. Last week General Superintendent Reynolds, Assistant Superintendent Elley and Supervisor James Riley awarded the prize to Thomas Maloney, of Union City. There were eight foremen striving for the prize, some of whom have spent years in that position."

#### OLD AND NEW ROADS.

[Continued from page 117.]

##### Railroad Legislation in Missouri.

The Merchants' Exchange in St. Louis has passed resolutions condemning the bill to regulate rates of fare and freight, now before the Missouri Legislature. The resolutions declare that additional legislation is not needed, that it is against sound policy, and calculated to work injury to the interests of the people of the State. A committee of five was also appointed to present this statement of the case to the Legislature.

##### St. Louis, Kansas City & Northern.

A partial strike of the engineers on this road took place March 15th, owing, it is reported, to a refusal of the demand on the part of the members of the Brotherhood of Locomotive Engineers that Charles Chapin, not a member of the Brotherhood, and who had been given an engine, should be discharged. Superintendent Van Horn ordered that all the strikers should be discharged, and their places filled by men not belonging to the Brotherhood. Serious trouble is feared on the road.

##### Lake Shore & Michigan Southern.

The station at the junction of the Chicago & Canada Southern heretofore known as Canada Southern, has been made a regular freight and ticket station, and will hereafter be known as Blissfield Junction.

##### St. Louis & Iron Mountain.

This company has presented a claim for a balance due from the State of Missouri. By acts passed in 1863, the unpaid balance due for the purchase of the St. Louis & Iron Mountain and Cairo & Fulton roads was appropriated for the construction of a road from Pilot Knob to the Arkansas State line at the rate of \$15,000 for each mile of road, until the amount was exhausted. The amount then due was named in the bill as \$664,300, but it is claimed that this was an error, and that the amount should have been \$674,300. Subsequently the St. Louis & Iron Mountain Company paid into the State Treasury the sum of \$40,458, being one year's interest on \$674,300, the amount then due. The company now claims that it has contracted more than enough road to absorb the whole sum of \$674,300 and accrued interest, under the act of 1863, and claims that the sum of \$40,458, paid as interest, should be returned to the company by the State.

##### Bellows' Falls & Grafton.

Books have been opened for subscriptions to the stock of this company, whose road will extend from Bellows' Falls, Vt., west about ten miles to Grafton.

##### Uxbridge & Northborough.

A railroad is proposed, to run from Uxbridge, Mass., on the Providence & Worcester road, north about eighteen miles to Northborough, on the Boston, Clinton & Fitchburg.

##### White Mountains.

At a special meeting of the stockholders of this company, held at Concord, N. H., March 14, it was voted to accept the proposition of the Boston, Concord & Montreal Company for a union of the two companies. The road is now leased and operated by the Boston, Concord & Montreal Company.

##### Connecticut & Passumpsic Rivers.

At a special meeting of the stockholders, held at White River Junction, Vt., March 14, it was voted to take up all the notes and bonds now in existence and issue \$1,500,000 first mortgage bonds, bearing 7 per cent. interest, to bear date April, 1873, payable 1896. The road is about 110 miles long, which would make this new issue of bonds at the rate of \$13,636 per mile. The net earnings of the road last year were \$308,000, or \$2,800 per mile.

##### Shepaug Valley.

This company has failed to pay the State tax, and the road has been seized by the State Treasurer. The road extends from Litchfield to Hawleyville, Conn., 32 miles, and its business is very light, the road not paying expenses.

##### Boston & Maine.

A dispatch from Portland, Me., dated March 17, states that the first passenger train passed over the Portland Extension on that day. The train was run up to the intersection of the Maine Central in Portland, where the Boston & Maine Company has built a depot, but the Maine Central refused to stop their trains there or to receive the passengers and baggage from the Boston & Maine at that point. An advertisement from the Maine Central announces that that company will receive no passengers except at its present depot, and it will not receive any tickets sold by the Boston & Maine Company. The matter is to be carried before the courts at once.

##### Boston, Hartford & Erie.

Judge Shepley, in the United States Circuit Court, at Boston, March 19, refused to grant the injunction asked by the Erie Railway Company to restrain the trustees under the Berdell



mortgage from foreclosing and forming a new corporation. Though assuming full jurisdiction, under the bankrupt law, he declined to interfere with the decisions of State courts as to underlying mortgages and would not interfere with the operation of the trust until the question of the status of general creditors had been established and power of sale given by the District Court acting concurrently.

This decision insures the transfer of the property to the bondholders under the Bordell mortgage.

#### New Jersey Railway.

The bill for the incorporation of this company, which purposed to construct a railroad in the interest of the Pennsylvania Railroad Company on a line identical with that of the defeated National Company, having passed the Senate came to a vote in the lower house of the New Jersey Legislature, and was defeated by a vote of 32 to 26, on the 19th.

#### Allegheny Car & Transportation Company.

This is the title of a corporation which has been organized under a charter which authorizes it to build, equip, rent or contract for cars or other railroad vehicles, and to sell, use or rent the same to any person or corporation, or to transport freight. Thus the company possesses the franchises of a car manufacturing company, a rolling stock company, with privilege to rent its cars to railroad or transportation companies and individuals, and a transportation company or freight line. The capital stock is \$100,000, which may be increased to \$500,000. About \$80,000 has been already subscribed, and three acres of ground has been purchased in Wilkesburg, Pa., as a site for the car works. The erection of buildings will be commenced when the season opens, and the entire establishment completed at an early day.

#### Portland & Bath.

It is said that the Maine Central Company has secured the control of this newly-organized company. If this is true, it is most probable that the road will not be built, as it would come in direct competition with the Maine Central's line between the two towns.

#### Iron Valley & Pennsylvania Line.

Surveys are to be made for this road, which is to extend from the Baltimore & Ohio, 12 miles west of Grafton, W. Va., north through Kingwood to the Pennsylvania Line, whence it will be continued to Falls City, on the Pittsburgh, Washington & Baltimore. The whole length of the road will be about 50 miles, and it will pass through a rich mineral country.

#### Gordonsville & Chester Gap.

A bill recently passed by the Virginia Legislature requires that this road be commenced within three years and completed within six. The road is to extend from Gordonsville, Va., northwest to Front Royal, about 55 miles.

#### Pennsylvania.

Work on the tunnel through Miller's Hill, at Port Perry, 12 miles east of Pittsburgh, by which connection will be made with the Pittsburgh, Virginia & Charleston road, has been commenced. It is expected that the work can be carried on without suspension until the tunnel is completed, and that it will occupy a little over a year.

#### Brinton's & Brownsville.

A road is proposed, to leave the Pennsylvania Railroad at Brinton's 12 miles east of Pittsburgh, and cross the Youghiogheny at McKeesport, passing down the east side of the Monongahela to Brownsville, on the Pittsburgh, Virginia & Charleston. The road would be about 36 miles long.

#### Pennsylvania—New York Division.

A large force of men has been put on the new shops west of the Hackensack River, and the work is progressing rapidly. The work has been much delayed by the severity of the winter.

#### Marquette, Houghton & Ontonagon.

Surveys are being made for a branch line from Spurr Mountain around the west end of Lake Michigan to the Republic Mine.

#### Milwaukee, Lake Shore & Western.

A petition in bankruptcy has been filed against this company in Milwaukee. It is alleged by the petitioner that in January last the company paid several persons for right of way in Ozaukee County, and thus gave preference to those parties in violation of the bankrupt law. It is also alleged that in December last the company paid money to the President and Superintendent of the road in violation of law.

#### Milwaukee & Northern.

This company has contracted with the Milwaukee Iron Company for 2,500 tons of rails, to be delivered in April and May. This is sufficient to complete the road from Menasha Junction to Green Bay. Tracklaying will begin as soon as the weather permits.

#### Newport & Cincinnati Railroad Bridge Company.

This company has brought suit against the United States, in the District Court at Cincinnati, for \$357,000, alleged damages incurred in consequence of alterations required in the construction of the bridge as to the height and width of the channel span. The assent of the United States to build this bridge was given March 3, 1869. The congressional legislation requiring a change on which the claim is based was section 5 of the bill for an appropriation for the post-office department for the year ending June 30, 1872, and approved March 3, 1871. The same act provides that parties injured thereby may seek redress in the United States courts.

#### Syracuse & Chenango Valley.

At a special meeting of the stockholders of this company held at Syracuse, N. Y., March 6, the board of directors submitted a report showing the whole cost of the road, including superstructure, rolling stock, right of way, engineering, etc., including connections with the New York Central, to be \$2,014,500. That mortgage bonds to the amount of \$900,000 had been issued, of which \$750,000 had been negotiated. The floating debt (including in the cost of the road as above stated,) was \$250,000. To meet this debt the company had on hand \$150,000 of second-mortgage bonds and \$200,000 of third-mortgage bonds. The report states the gross earnings of the road from the opening to date to be \$142,060. A committee of ten was appointed to obtain subscriptions to the bonds undisposed of.

The road, which is to form the western end of the New York, Kingston & Syracuse, is now in operation from Syracuse southwest to Earlville, 27 miles.

#### Utica, Clinton & Binghamton.

This company recently offered to sell the town of Kirkland, N. Y., which already owns 12,000 shares of stock, an additional 12,000 shares for \$18,000, the money to be applied to the liquidation of the floating debt of the road from Clinton to Utica. At a special town meeting, held March 11, the town voted against purchasing any more stock.

#### Queenston Suspension Bridge.

The Hamilton (Ontario) *Spectator* says: "A meeting of the shareholders of the Queenston Suspension Bridge Company was held on Saturday last at the new office of the company in this city. Fully two-thirds of the old stock of the company was represented. The stock-books are to be opened on the 17th of April next, after the proper notices have been given at Queenston, St. Catharines and Hamilton. The capital stock of the

### RAILROAD EARNINGS FOR FEBRUARY, 1873.

NAME OF ROAD.	Mileage.		Increase.		Earnings.		Inc.	Dec.	Per cent.	Earnings per mile.	
	1873.	1872.	Miles.	P. c.	1873.	1872.				1873.	1872.
Atlantic & Great Western.....	539	508	31	6%	\$360,754	\$234,210	\$36,544		11%	\$669	\$461
Atlantic & Pacific.....	328	328			87,619	69,845	17,774		25%	267	213
Burlington, Cedar Rapids & Minnesota.....	334	361	27	3%	78,346	64,479	13,870		21%	235	178
Central Pacific.....	1,453	1,390	63	12%	6,44,015	571,836	132,179		21%	478	443
Chicago & Alton.....	649	599	50	8%	409,477	339,171	73,306		22%	640	570
Chicago, Danville & Vincennes.....	132	132			49,108	40,763	8,345		20%	373	309
Cleveland, Columbus, Cin. & Indianapolis.....	470	390	80	20%	408,849	320,022	88,827		27%	870	821
Erie.....	971	956	15	1%	1,329,422	1,394,056	35,366		2%	1,369	1,384
Illinois Central.....	1,109	1,109			562,919	531,627	31,292		5%	504	479
Kansas Pacific.....	672	672			1,478	191,738	8,048		1%	296	285
Lake Shore & Michigan Southern.....	1,133	997	136	13%	1,549,255	1,294,710	254,575		19%	1,367	1,199
Michigan Central.....	715	715			542,008	484,022	57,986		12%	757	677
Milwaukee & St. Paul.....	1,131	1,018	113	10%	483,716	387,555	96,161		9%	428	381
Missouri, Kansas & Texas.....	741	476	265	34%	218,000	91,138	126,862		18%	340	141
Marietta & Cincinnati.....	284	284			163,585	142,403	21,182		14%	572	501
Ohio & Mississippi.....	393	393			286,805	235,980	50,825		21%	730	600
Pacific, of Missouri.....	471	353	118	33%	261,846	237,778	24,068		10%	555	670
St. Louis, Alton & Terre Haute, Main Line.....	366	303	63	20%	191,868	104,486	87,382		16%	486	343
St. Louis & Southeastern (St. Louis Div.).....	203	203			57,116	37,514	19,602		23%	281	185
Toledo, Wabash & Western.....	628	628			405,110	431,949	26,839		6%	645	688
St. Louis, Kansas City & Northern.....	583	583			230,619	211,057	19,562		4%	378	362
Total.....	13,095	12,161	934	7%	\$8,416,783	\$7,396,353	\$1,040,270		13%	648	608
Total increase.....							1,020,431				

### RAILROAD EARNINGS, TWO MONTHS ENDING FEBRUARY 28.

NAME OF ROAD.	Mileage.		Increase.		Earnings.		Increase.	Decrease.	Per cent.	Earnings per Mile.				
	1873.	1872.	Miles.	P. c.	1873.	1872.				1873.	1872.	Inc.	Dec.	P. c.
Atlantic & Great Western.....	539	508	31	6%	\$735,472	\$697,053	\$38,417		5%	\$1,365	\$1,378	\$...	\$13	1
Atlantic & Pacific.....	328	328			174,473	150,438	24,035		16%	532	459	73		16
Burlington, Cedar Rap. & Minn.....	334	361	27	3%	139,709	129,795	9,914		7%	418	497			16
Central Pacific.....	1,453	1,390	63	12%	1,546,875	1,164,059	382,816		33%	1,065	909	156		18%
Chicago & Alton.....	649	599	50	8%	755,045	700,878	54,167		7%	1,163	1,170			7%
Chicago, Danville & Vincennes.....	132	132			96,623	77,754	18,868		24%	72	589	143		4%
Cleveland, Col., Cin. & Indianapolis.....	470	390	80	20%	767,462	660,831	106,649		16%	1,633	1,691			3%
Erie.....	971	956	15	1%	2,446,253	2,627,366	18,887		0%	2,723	2,768			0%
Illinois Central.....	1,109	1,109			1,143,448	1,169,57			2%	1,031	1,154			2%
Kansas Pacific.....	672	672			316,353	351,244			9%	514	528			3%
Lake Shore & Mich. Southern.....	1,128	997	131	13%	2,061,653	1,617,905	443,748		27%	1,824	1,354	470		35%
Michigan Central.....	715	715			1,017,905	969,648	48,257		5%	1,424	1,354	70		5%
Milwaukee & St. Paul.....	1,131	1,018	113	10%	758,431	618,551	139,880		22%	677	584	93		16%
Missouri, Kansas & Texas.....	741	476	265	34%	418,639	172,437	246,202		142%	553	362	191		52%
Marietta & Cincinnati.....	284	284			332,600	291,985	40,615		14%	1,171	1,089	82		8%
Ohio & Mississippi.....	393	393			564,591	509,004	55,587		10%	1,436	1,395	41		3%
Pacific, of Missouri.....	471	353	118	33%	459,243	484,608	4,365		0%	1,039	1,365			23%
St. Louis, Alton & Terre Haute.....	366	303	63	20%	227,736	284,302	56,566		19%	616	934			33%
St. Louis, Kan City & Northern.....	203	203			410,168	439,267	29,099		7%	2,004	2,163			7%
Toledo, Wabash & Western.....	628	628			775,406	871,729	96,323		12%	1,235	1,368			10%
Total.....	12,887	11,958	929	7%	\$16,307,138	\$15,164,730	\$1,142,408		7%	\$1,985	\$1,968			1%
Total increase.....							1,142,408							

company is to be increased to \$750,000. Bonds of the company, to a limited amount, are also authorized to be issued. Surveys are now at work at Queenston making the necessary surveys and plans of the grounds of the company."

#### New York, Bay Ridge & Hempstead.

Work is now going on on the eastern end of this road between Bay Ridge, L. I., and the crossing of the South Side road at Valley Stream, and the company expects to have the road completed by October next. The company has purchased the Bergen Farm at Bay Ridge, thereby securing a valuable waterfront and ferry privilege. It is said that arrangements have been made with the South Side Company, by which the trains of the Bay Ridge road can be run over the South Side track to Woodhaven and East New York.

#### Denver Railway Construction Company.

A company by this name has been organized at Denver, Col., with a capital of \$100,000, for the purpose of building and equipping railroad and telegraph lines and doing a general business as railroad contractors.

#### Portland & Ogdensburg.

The time for locating, building and completing this railroad has been extended to December 31, 1875, by the Maine Legislature.

#### Maine Central.

It is reported that during the two last snow-storms the locomotives of this company suffered damages which it will cost \$35,000 to make good.

#### Cumberland & Ohio.

This company has concluded a contract with capitalists represented by Mallory & Co., of Iowa, which, it is said, will insure the speedy construction of the road. The new contractors undertake to build and equip the line from Campbellsburg, Ky., to Nashville, Tenn., about 200 miles, and have it running in two years from the date of contract. The price paid is to be \$50,000 per mile, \$12,000 in stock of the company, \$25,000 in its first mortgage bonds, and \$13,000 in county bonds at par.

The contractors become the lessees of the road for a term of twenty-five years from its completion, and guarantee to the stockholders the payment of the interest on the bonds and on the stock, dividends as follows: two per cent. the sixth year, four per cent. the seventh year, five per cent. the eighth year, and six per cent. the ninth and each succeeding year until the expiration of the lease. At the expiration of the twenty-five years the road and its equipments are to be surrendered to the company—it being agreed that the road at the date of the surrender shall be in thorough repair, and that its equipment shall be ample and complete as a first-class road.

It is stated that the contractors have purchased the contract from Myer & Hay, contractors for building the road from Campbellsburg to Greensburg.

It is also contemplated to build an extension from Campbellsburg (which is on the Louisville, Cincinnati & Lexington, 69 miles from Cincinnati) to the Ohio River opposite Madison, Ind., there connecting with the Jeffersonville, Madison & Indianapolis road.

#### Whitehall & Plattsburg.

At a recent meeting of the stockholders of this company plans were presented for the lease of the road to the New York & Canada Railroad Company. The details of the proposed lease are given in the report of the proceedings as follows:

"The lease is for nine hundred and ninety-nine years, the consideration being the round sum of one million of dollars for the entire period. The New York & Canada railroad is to complete the line through from Plattsburg to Whitehall within five years, or forfeit the lease. The money to be applied to payment of bonds and all just and legal claims. Suitable confirmatory conveyances from the Rutland & Burlington and the Vermont Central companies were also submitted. It is understood that the sum of one million dollars is not sufficient to pay everything in full. As regards the Whitehall & Plattsburg railroad, this amount is expected to cover all just floating indebtedness in full, but will involve a sacrifice of ten per cent. on the bonds, and of the entire amount of stock. The Ver-

mont Central Company assents also to making an abatement upon its entire interest in the two roads and the payment of some \$35,000 to \$40,000, in order to bring the amount of claims to be discharged within the limit of the specified amount of one million dollars. Those stockholders of the Whitehall & Plattsburg Railroad Company who consent to the sacrifice of their stock will receive such portion of the new consolidation stock as may be agreed upon in the negotiation for consolidation. It is considered that the indebtedness of the company extinguishes the stock, and most of the private stockholders have given their formal consent to the sacrifice of their stock upon condition of the completion of a through road. It is understood that the necessary details for consolidation have already been practically agreed upon, and will doubtless be soon fully consummated, the New York & Canada Railroad Company taking possession by about the opening of navigation."

#### Middleboro & Taunton.

At the special meeting held March 14, the stockholders of this company voted to sell their road to the Old Colony Railroad Company for the price offered, \$175,000. The road extends from Middleboro, Mass., the junction of the Old Colony and Cape Cod roads, west 54 miles to Weir Junction on the New Bedford & Taunton. The price to be paid is about \$20,000 per mile. The capital stock of the company by the last report was \$148,075, and the cost of the road \$182,364.05.

#### Missouri, Kansas & Texas.

A telegram announces that the connection between this road and the Houston & Texas Central at Denison, Tex., was completed March 14. Through trains from St. Louis to Galveston were to begin running March 17.

#### Texas & New Orleans.

This company was chartered previous to the war with a liberal donation of money and lands from the State of Texas, and the road was constructed from Houston, Tex., northeast to the Sabine River, 108 miles. During the war the road became out of repair and the iron was taken up from the section extending from the Trinity River east to the Sabine, 68 miles. In 1868 a foreclosure suit was brought in the United States Circuit Court by the bond holders, and this suit has now been finally closed, and the property, including the road and a grant of about 800,000 acres of land, confirmed to the purchasers under the foreclosure sale, E. D. Morgan and associates, of New York.

The Galveston (Tex.) *News*, of March 13, says: "We have also been furnished by the clerk of the court with the following statements relative to the settlement of the affairs of the corporation:

Amount of sale of 68 miles east of Trinity River, and lands and land warrants.....	\$377,577 00
Of 40 miles west of Trinity River.....	240 000 00
Total proceeds of sale.....	\$617,577 00
Bonds proven on 68 miles and land.....	\$2,874,176 68
Bonds proven on 40 miles and land.....	414,891 40
Total.....	\$3,289,037 08
Expenses of custody, care and repair of property on 68 miles, including interest paid on school fund.....	\$235,845 80
On 40 miles.....	60,734 50
Total.....	\$322,570 30

"We are informed that most of the bonds proven were held by the purchasers of the property. There are, however, 17 bonds of the issue of 1859, and 80 bonds of the issue of 1861, held by other parties than the purchasers. The *pro rata* value of these bonds, about \$28,000, has been paid to the clerk of the court for distribution among the several holders thereof."

#### Flint & Pere Marquette.

It is said that this company will build a branch from their main line near the east line of Mason County, northwest about 27 miles to Manistee.

#### Adrian & Detroit.

The grading between Adrian and Saline, Mich., is all completed except about five miles. The bridge work is being pushed forward rapidly.